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PART I.—ESSAYS, MONOGRAPHS, AND CASES.

Cases of Anomalous Development of Tubercles, commencing at the base of the Lung and gradually extending upwards; with the Physical Signs of Pneumonia. Analysis of the Cases: Diagnosis, Prognosis, Pathology, &c. By HENRY I. BOWDITCH, M.D. Read before the Boston Society for Medical Observation, February 20th, 1855.

CASE I.—I. H., a stout young apothecary, aged 22. I saw him Jan. 2, 1842. He had had a cough for three weeks, dry at first, but for ten preceding days it had been looser, with frothy sputa. It had, however, never been very troublesome. He had been occasionally liable to "slight colds," during the preceding years, and transient pains in the chest, but he had not thought himself ill. The day before my visit he had been seized with an acute pain in the region of the heart, preceded by chilly feelings several days before, and for which he had kept the house during the greater part of the time. No distinct febrile paroxysm. No diminution of strength or flesh. He in fact considered himself as only slightly ailing, and I was summoned solely on account of the pain in the side. His digestion had been good. At my visit, he was sitting up, and looked not very ill; he had no marked dyspnœa, or any manifest sign of serious internal lesion. Pulse 96 to 100. A dull pain only

was felt on a full breath, in the left breast, *near the cardiac region*; and upon auscultation there I found a *fine crepitus râle* over a space about the size of the palm of the hand. I regarded the case as one of mild and very local pneumonia. I prescribed two leeches, to be followed by a poultice. Dover's powder and jalap.

Jan. 9th: Had improved. The crepitation had lessened somewhat. It had, however, persisted from the first moment that it was noticed, but there had *never been any hepatization*, as in pneumonia. Little or no fever; cough less; sputa easy, greenish. At times, slight transitory pains in the right chest; bowels costive.

Feb. 17th: Had been gradually getting more ill, although he had been able to walk out. On percussion in front there was a decided difference of note in favor of the right breast; fine crepitation at left; voice resonant at both apices; patient felt faint and weak. A pill of acet. morph., ipecac. and aloes was ordered; p. r. n. Patient went to the country.

March 10: Returned no better, but with all the signs of evident phthisis. *Bruit de pot félé* where crepitation had been heard. Dull percussion of left breast; cavernous respiration and pectoriloquy at the top of the right lung.

He continued gradually sinking, and died the last of May or first part of June.

It will be remarked that this patient, after having had occasionally simple "colds," was suddenly taken with pain in the left breast, and although there were none of the characteristic marks of pneumonia, prostration, rusty sputa, &c., the physical sign, *crepitation of a minute character, and heard towards the lower parts of the lung, lasted certainly from Jan. 2d until Feb. 17th*, and probably some days longer, and finally terminated in softening of the lung and an excavation.

CASE II. Sept. 5th, 1843: A. B., dry goods seller, aged 22. Had experienced some dyspeptic symptoms for six months, and for two months had had slight cough, but no pains in the chest and no fever. He had in fact felt well enough to be engaged in his business on the afternoon of the 5th. An hour before I

saw him he had had hæmoptysis, of several sputa. No other serious symptoms.

The chest resounded well, and the respiratory murmur was everywhere heard; nowhere tubular, but at the tops of both lungs, particularly at the left, there seemed as if a mucous râle were about to be produced. Voice, slightly resonant just below the top of the left shoulder.

Pill of gr. ss. opium and 2 gr. acet. plumb. ordered.

On the following day he seemed quite well, and started for —, on a visit to his father's house, in order to rest.

Oct. 2d, I saw him again. While at his father's he had had copious hæmoptysis, but after that regained his strength, and seemed to be improving in every respect, when, on the 27th of September, he was seized with chills and soreness of the chest, and afterward became more ill. At my visit he looked thin, his skin was cool, pulse 72, slight sweats at night, appetite lessened. Occasional cough; lying on the left side increased it; no severe paroxysms, but he hawked often; he felt very weak.

Physical signs: Rude respiration under left clavicle; a little tubular on the top of shoulder. But the most marked sign was a bronchial respiration, bronchophony, crepitous râle, and dulness on percussion throughout the *lower third of the back*; right top perfectly normal.

R. Mist. ferri comp. f. 3ss. t. i. d.

Oct. 4th:—Cough more urgent; auscultation of back as before.

Two leeches to side, and repeat, if need be, day after to-morrow.

R. Morph. acet., gr. iv.
Pulv. rhei., 3ss.

F. pil. xx. One night and morning.

Oct. 22: There was a slight crumpling at the apex, but the most marked sign was the fine crepitus, as before, on coughing, but no distinct bronchial respiration or bronchophony. He reported that subsequent to the last examination he became worse, and had had pains about the chest, and grew thin, but

that since he had been improving. At the time of my examination, he had scarcely any more than a simple hemming; no severe cough; less dyspnœa, though it was still decidedly manifest on going up stairs; digestion perfect; no hectic.

He was preparing to go South. This he did, and June 26, 1844, I again saw him.

He had spent six months in the pine regions of Georgia, hunting and fishing, and had at times ridden forty miles daily. During the whole period of six months he had had no trouble, save occasionally a little cough. During his passage home he began to emaciate, and felt ill. In April, a tendency to diarrhœa commenced, with oppression after food, with some slight febrile paroxysms. No dyspnœa except when lying on the left side; slight hæmoptysis after his return North, as he thought, from the fauces, which were sore, and looked varicose. He had gained flesh while at the South, which he had lost after his return.

Physical signs: Percussion everywhere good; clavicles prominent; crackling in the left breast, and back, even to the base.

I put him upon a careful semi-tonic diet, with a glass of port wine daily. Sponge bath daily.

Aug. 8th: I again met him. He had improved very much in his health, and his whole aspect was much better. He was preparing to spend another Winter in the South. *Still some fine crepitous in the lower part of the back* on coughing. He had employed Dr. Ramadge's inhaling tube with great relief; he could breathe easier after using it.

Having spent the Winter in Alabama, and thinking himself almost or quite well, he returned North in the Spring of 1845. I saw him July 30. He had attended to his business, but had always had a slight cough. In December a fistula in ano occurred. He looked paler and thinner than I had ever seen him. The physical signs had become manifest in the apex of the right lung; the whole of the left was involved, and a fine crepitus mixed at times with coarser râles, was heard in the lower two-thirds of that lung.

He died not long afterward.

This case is analogous to the preceding one. A young man,

aged 22, was seized, after having been but slightly unwell, with severe symptoms, and the *most marked physical sign*, at the second examination (and probably the same would have been found at first had a more thorough exploration been made), *was a fine crepitation heard in the lower part of the left lung*, whence the disease extended upward and to the upper part of the left lung. The physical signs, at first, were those of pure pneumonia. Yet the crepitus lasted more or less manifestly from Oct. 2, 1843, to July, 1845 !

CASE III.—The Rev. Mr. D., a clergyman residing in New Hampshire, aged 24,—very earnest and devoted to study. He entered my room, looking quite well, Dec. 14, 1849. His health had been good, except some aphonia during the previous Spring, which was wholly removed by the amputation of his uvula, after which he was well till three weeks before I saw him. Then he had a slight cough, preceded some weeks before with trivial, pricking, pains in the thorax, always coming on after sitting for some time, and relieved by walking. Slight sweating at night after the cough commenced. No expectoration till the day before I saw him, and then he had had a little hæmoptysis, which he thought came from the right lung. Some loss of flesh, but not of strength. His appearance on examination was that of a rather slender person, but bright and active as if not suffering from any severe disease. No apparent dyspnœa. Pulse somewhat quickened. In front, I heard indistinct bronchial respiration, and bronchophony about the third rib of the right breast, and behind the same signs were very distinct from the spine to the angle of the scapula ; while *below the angle there was the most minute crepitus*, on full breath.

Though the physical signs were evidently those of pneumonia, the whole of the rational signs, their slowness,—above all, the perfectly healthy and easy appearance of the patient,—prevented me from regarding the case as one of common, acute, pneumonia. I remembered the two cases already named, and feared an acute, latent, and anomalous deposit of tubercle.

Dr. James Jackson saw the patient in consultation, and fully agreed with me. Nevertheless the physical signs were so like

pneumonia that it was determined to use an antiphlogistic course :

R.	Hyd. sub. mur.	gr. 1.
	Opil.	gr. $\frac{1}{4}$.
	Ant. Tart.	gr. $\frac{1}{8}$.

were prescribed every night. Vegetable diet.

Dec. 19th : Reported more pain in the right side,—more sputa, yellow and adhesive. Felt very weak. Respiration 28. Pulse 112.

The sub-muriate was carried to the point of producing a slight sore mouth, and all the usual treatment of pneumonia pursued without the least benefit or change except for the worse. Finally, cod liver oil was directed, about Jan. 14. Extract of lactuca ordered instead of opiates.

Jan. 21st : The report was as follows : Very great tubular respiration, between the spine and angle of the scapula ; râles as before, below the angle. Dyspnoea still marked, on exertion ; and pulse very quick. Otherwise he felt better, and seemed rather less emaciated. Digestion, good. Sleep, good. Cough, a little in the morning ; expectoration, of a greenish hue, and very small in quantity.

Feb. 5th : Symptoms as above, except that there was more cough, but it was dry.

About this period he had a feeling of obstruction in the left ear, and it became so troublesome that I invited Dr. Clarke to see him (March 6th), who, upon a thorough examination, found no evident trouble. Glycerine was ordered, but without avail. He became weaker, daily. His cough was still slight ; he had no pains in his chest ; his chief trouble was a slight salivation, which he attributed to the calomel ; he was more costive. No hectic.

Feb. 27th : Kept awake by slight pain in left side, at times. Generally, as before, except more emaciated, and vomited usually after food ; some œdema of the legs.

R.	Morph. acet.	gr. iii.
	Aloes,	3ss.
		in pil. xx. I at night.

April 16th : *Extremely* thin : ulceration of the right cornea ; cough more severe ; œdema greater.

R. Collyrium of sulph. zinc, gr. vi. ad. aq. f.3ij.

April 20th: He died, after very little suffering, and slight cough.

During the latter part of life he felt as if the right side of the chest had died; his mind was perfect until the last moment; his expectoration was slight till the last few weeks of life, and rather by hawking than coughing; no hæmoptysis. Digestive organs, well. The ulcer of the cornea nearly deprived him of sight.

Autopsy on the 21st. Great emaciation. Right lung firmly united throughout its whole extent to the pleura costalis. Upper lobe wholly riddled by a large ragged excavation containing pus and tuberculous matter. The lower lobe had a dense feel, and on cutting it open, it presented a perfectly solid structure, containing common tuberculous matter and something that resembled chronic pneumonia. These two conditions were found in every part of the lobe; not a particle of air could be perceived. At times this gray dense substance surrounded the tubercles. Some small cavities containing pus were seen, but they did not communicate with the bronchi.

The other lung collapsed freely on raising the sternum; a few adhesions only at upper part. Generally, this lung had the healthy pink hue. At the apex were one or two gray tubercular masses. The lower lobe was diseased in a slight degree, as the lower lobe of the other lung, *i. e.*, a few tubercles with a dense structure around; no cavities containing pus.

Head—Internal ears, healthy. The abdominal organs looked healthy.

Resumé of the case. A young man was taken suddenly with slight hæmoptysis, after having been only slightly unwell. None of the rational signs of acute pneumonia, and yet the physical signs exactly corresponded with the first and second stages of that disease. Though active antiphlogistic treatment was first adopted, and subsequently the usual treatment for phthisis was followed, neither plan had any influence toward checking the onward career of the complaint. In fact, it may well be doubted whether the antiphlogistic course was not actually deleterious. Certainly I should never recommend the same again in a

like case. The physical sign of *crepitation at the lower portions of the lung* lasted over three months and a half.

CASE IV.—Mr. H——, aged about 30. Not wholly well for two months, but very actively engaged as a merchant in a large jobbing house of this city. I saw him in consultation, March 25, 1854. I learned that, on a visit to New York on business, he was exposed to very severely cold weather, particularly in an open sleigh on his return. He had been chilly every night on retiring to rest. On his return to Boston, he felt as if he had taken a bad cold; he had lost his appetite, and his strength was less, although he was quite able, and determined to be at work. In a few days, however, his cough was so urgent, and his symptoms became so manifest, that by directions of the attending physician he kept at home. At my visit, I found him in bed. He had however been up, daily. His pulse was rapid; his cough, violent; his expectoration, thin, glairy, small in quantity,—never bloody; he was very nervous, and evidently much excited about himself. The physical signs were *a fine explosion of crepitus râle in the lower third of the right back*, and the respiration was less clear throughout the whole back, even at the top, *though evidently the chief obstruction was at the base*. A faint rubbing was heard on full breath. The attendant physician informed me that when the patient first called at his office, after his return from New York, he seemed like one who had been running violently, he panted so much. The physical signs were some dulness in the part above named, and sibilant and sonorous and loud mucous râles. His physician regarded the case as bronchitis, in consequence of exposure, which had gone on toward hepatization. The patient wished to go out, but he was required to keep his house. He had used calomel internally, and croton oil externally. The dulness had steadily but slowly augmented, and at my visit was more than at any time before. I suggested the probability of acute phthisis, advised blistering, the omission of calomel, &c., and of depressing treatment, and the use of the cod liver oil. I requested that Dr. Jackson should be consulted. That gentleman saw the patient a few days afterward. and was, I believe, inclined to view the case in the same light as I did. He however request-

ed another examination. Mr. H—— became very anxious about his health, and declined allowing any further auscultation.

He spent the Summer in the country ; grew fat on cod liver oil, but his cough did not cease, the dyspnœa rather augmented, and in the Autumn he had a fistula in ano. The attending physician informed me that there were signs of a cavity in the lower lobe. In other words, it seemed from the long continuance of the disease (eight months), and from similarity to the two others already given, that it was another example of peculiar, anomalous, tubercular disease, commencing in crepitous râle at the base of the lung. This patient is still alive, and has undergone two very serious changes since that period. His fistula still remains open. He is considered a permanent invalid, and has done no business since his first attack. Last Winter he was suddenly seized with signs of pneumothorax of the affected side, with tympanites, resonance on percussion, absence of murmur. From the immediate effects of this attack he slowly recovered, and, instead of air, a large quantity of serous yellow fluid was effused ; six pints of which I removed, with great relief to the patient, in May, 1855. I used the same apparatus mentioned by me in my paper, given in the *American Journal of Medical Sciences* for April, 1852, and in a former number of the MONTHLY. Nothing but the most pleasant results followed the operation. Now (June 6, 1855) he walks about, does not attend to business, but occasionally visits his warehouse. The fluid has shown no tendency to return, but he has great dulness of right breast, and a distinct dry tubular respiration and bronchophony ; also some vocal resonance at the top of the left back. No crepitation, but only an obscurity of respiration at the lower parts, where crepitation was heard last year.

Resumé. A most interesting and important case ! Taken a little more than a year since, with the crepitation as in previously described cases. This patient has gone through three of the most serious accompaniments of phthisis, viz : fistula in ano, pneumo-thorax, and pleurisy, with effusion ; for the latter of which a puncture was made, with complete relief to the symptoms depending on that state of things ; and now, *finally*, he

presents the usual signs of condensation at the apices of both lungs. He is however better than for some time, but has evident dyspnœa and emaciation. He falls into the same category with case VII.

CASE V.—Aged 20. A collegian the last two years, and a scholar in Boston before. Residence at W——. Always puny, but never really ill; easily fatigued by exercise, but able to walk six or eight miles daily. Has usually walked much. Never liable to cough; digestion, good. I saw him July 21, 1854.

For weeks before visiting me, he had had some pain in the right chest, but had been relieved. He had been very much occupied in preparing for a collegiate exhibition, in which he had felt a deep interest. For a few days he had felt weak, owing, as he thought, to the prevalence of an East wind, and the day before I saw him he had a tickling sensation at the bottom of the sternum, and gradually a soreness came on, low down in front of the chest. Otherwise he felt in perfect health. On the day this soreness commenced he spent a long time in the woods repeating, in a loud voice, the exercise he had prepared for exhibition. He used port wine as a gargle, and gradually the soreness, or burning pain, fastened upon the epigastrium. It increased as the evening advanced, but he awoke free from all trouble the next morning. By resuming his daily labors it was reproduced. Digestion usually in tolerable order, but a little costive. Dejections every second or third day. Never any acidity. No chills, heats, or sweats. Urine darker than usual, and it had a strong odor and a sediment.

As he entered my room, he looked rather frail, but well. Tongue clean; appetite good. His respiration was easy; soreness prevented at times a full inspiration; he had also, occasionally, a dull pain in the back. He felt somewhat restless, without any evident cause. Pulse 72; skin normal. The rational signs were in fact so small that I should not have thought it necessary to examine the thorax of the patient, had he not visited me solely for that purpose. The physical signs were as follows:

Inspection good. On percussion, difference of pitch on lower third, front and back, it being a little *higher* at the left than at

the right. By auscultation was heard *a very minute crepitation throughout the lower third of the left*, corresponding exactly to the higher note.

From the physical signs it was plain that there was a congestion of the left lung. The rational signs set aside wholly the idea of pneumonia. I could not but be reminded of the preceding cases of phthisis. I deferred my judgment, however, but ordered as follows :

He must keep quiet, give up all elocutionary efforts, have a simple diet.

R. Pill Hydrarg, ℞i.
 in pil. iv. One every other night.

July 24th : On the day of this visit he was seized, while driving, with a severe pain in the left side. The motion caused him great agony. From that period he had had uncomfortable feelings at the top of the shoulder ; but otherwise the symptoms were as before. Physical signs identically the same as three days previously.

Croton oil to the chest. Keep quiet.

July 29th : While driving to my office he was again seized with a pain in the side, so that he had to rise in the carriage in order to avoid the jolting. He was very costive, in spite of Rochelle powders and injections. Exertion produced heat in the side and along the sternum. On the night of the 28th he had a little hemming, but no cough and no sputa. Breathing a little more difficult. Pains in both sides, at times, on full breath, and unpleasant feelings there all the time. No hectic. Appetite indifferent till he commenced eating, then it became voracious. Aspect as good as at his first visit. A slight hem occasionally noticed during examination.

Crepitation perhaps a little coarser behind, but heard from *one inch above the angle of the scapula, and in front from an inch below the nipple, to the base of the lung.*

Extract Colocynth comp., gr. v., every morning.

Advised the attending physician to use iodide potass. and leeches.

Aug. 23d : Had been worse. Ten days before, was visited

by a college friend ; talked much and read aloud. He had increased heat about the chest, and was confined for two or three days. He had had four leeches, and had followed the prescription above given. Very little pain in the chest. Digestion better ; bowels regular ; face a little red ; urine natural. "*Not a particle of cough ;*" able to ride better ; no trouble in coming into town ; pulse 84 ; head well ; no emaciation. *Crepitation terminated distinctly and abruptly in the middle of the back and at the nipple in front ;* that is, it had extended.

Continue the same course, increasing the dose of the iodide.

A month subsequently, I learned that the physical signs were gradually augmenting, but the patient suffered much less pain, and had thrown aside all medicine and came into town to take lessons on the pianoforte. In a letter received the past week (June 17, 1855), the attending physician informs me that the disease of the lung is increasing.

CASE VI.—I saw in consultation with Dr. C——, October, 1854. Dr. C. gave me the following account of the case :

G. A. H., aged 26, hardware dealer, salesman and traveller in a large firm. Married.

In February, 1854, he had an attack of "lung fever and pleurisy," from which, after a few weeks, he recovered so far as to be able to return to his business. His health however was far from perfect, but being active and "ambitious," he continued to perform full service through the remainder of March and April. About the middle of May, he was seized with a febrile attack, accompanied with a slight irritating cough and shortness of breath. He was confined to his bed only a day or two. The physical signs were chiefly the following : Great dulness on percussion over the lower half of the *right* lung, with bronchial respiration and bronchophony in the same part ; some crepitation or mucous râle immediately above the dull spot, and at the very lowest portion of the *left* lung. The crepitation in both lungs gradually disappeared ; the cough almost entirely left him, and the dyspnœa occurred only after exercise. His pulse fell to 80 ; his appetite was sufficient, and

his bowels were tolerably regular. No appreciable improvement took place in the right lung.

He was excessively uneasy under restraint, and wished to start on a "business tour" South and West. This being objected to, he dissolved partnership, and gave up his business connections. As he had in February been advised by his attendant physician to go to a milder climate, he now resolved to try a voyage up the Mediterranean, and on the 5th of June sailed for Malta. After considerable suffering and a bad voyage, he arrived there July 12th. He was told by an English physician that the lower lobe of his right lung was consolidated. After remaining two weeks, he returned home by way of France and England, and reached Boston Aug. 25th, about in the same condition that he was in when he left; certainly not improved. He was not confined to his house, but passed his time in visiting his business and other friends, walking moderate distances, and driving two or three miles, without much effect or inconvenience.

Sept. 6th: Twelve days after his return, he had hæmoptysis, and expectorated about one-half pint of fluid blood, and a noticeable quantity of frothy mucus. The hæmorrhage recurred the same day, and after an interval of two days took place two or three times daily for six days more. The whole number of bleedings was fifteen, and the amount discharged about five pints.

TREATMENT.—Rest, abstinence. Blisters. Acet. plumb. and opium.

Sept. 14th: Hæmoptysis ceased. Right lung, lower lobe, as previously; mucous râle and occasional clicks in the middle one-third; also in lower part of left. Respiratory murmur and percussion normal elsewhere. Considerable debility and sickly aspect from loss of blood, &c. Pulse 80, above which it never had risen except under temporary excitement.

Almost immediately on the cessation of the hæmoptysis, he began to have febrile paroxysms in the after part of the day and evening; at first very slight, but gradually increasing in duration and intensity; followed by sweats, which at last thoroughly drenched his clothing. The pulse rose to 90, and in a few days to 100; then to 110–15, and during the last week of

his life to 120-30. Respiration 34 to 40 per minute, varying during the same visit. The bowels became irregular, alternately costive and loose; the appetite was craving for more than could be easily borne. *The crepitation in the left lung gradually extended upward.*

Oct. 5th: Twelve days before death, I saw him in consultation, and observed as follows: On percussion there was less sound, generally at the right, and particularly so in the lower part of it. There was evidence of great obstruction in both lungs, at the lower portions. Cracklings coarse, at the right; *fine explosion of crepitus râle in the same part of the left*; above, something similar in both, mingled with a sonorous râle. Loud and rough respiration, but evidently the most pure that could be found, was perceived under the clavicles. Patient was very feeble, could not rise in bed without assistance, and was unable, owing to faintness and dyspnoea, to remain but a few moments in a sitting posture. The dyspnoea was very great and manifest. Patient spoke only in whispers, and preferred to write his wants. Pulse 122, feeble. Expectoration ragged opaque sputa and a watery fluid. Urine dark, slimy. Digestion good, though tending to irregularity of the bowels. Sweats, copious at night.

I learned from Dr. C. that the crepitation gradually extended, and finally by the 16th of October occupied the whole lung to its apex. Within a week before, a similar state was observed in the right lung. Percussion being unpleasant to the patient, was not persisted in. Flying pains occasionally in both chests.

Oct. 15th: Much blueness of nails; coldness of extremities; almost pulseless; dyspnoea intense.

Died in the evening of Oct. 18th, at 7½ o'clock.

An autopsy was made under great difficulties, at 3¼ P. M., Oct. 21st.

Great emaciation.

On raising the sternum the lungs looked pale, but over the right were patches of thin old opaque false-membrane. This was found to extend over almost the whole of the organ. The two upper lobes were removed with comparative ease. The lower lobe was very firmly adherent, so that the pleura costalis was ruptured in raising that part of the lung.

The left lung was very slightly adherent, but chiefly in its lower half, by a more delicate membrane, the major part of it being of recent soft effusion.

The right lung was diseased as follows: Not a particle of the lower lobe was healthy, but it was broken down into a ragged cavity, having exactly the aspect of a common tubercular cavity, as found at the top of a lung. The walls of this cavity were from a quarter to half an inch thick, and it was traversed by numerous bands, all of which were dense and impervious to air. There were a few crude tubercles. The middle lobe was studded with crude opaque tubercles, and the interstices, though containing a little air, were denser than in health. At its lowest part there were a few small cavities, containing pus, and which had not communicated with the bronchi. In the upper lobe were a few small tubercles, but it crepitated and was healthy, except that it was very œdematous.

The left lung was covered on its lower lobe, and the lower part of upper lobe, by a delicate membrane, which was soft, recent, and of a deep, mottled red, aspect. The lower lobe was uniformly dense, as from pneumonia. The upper lobe was pale, swollen, and looked emphysematous; tubercles were easily felt in its interior. On incision of the lower lobe it was found everywhere solid, and of a mottled gray appearance, like the gray infiltration of tubercle, being less friable, less granular, and less purulent than pneumonia. A few opaque distinct tubercles in it. The upper lobe, on incision, showed many tubercles, *most numerous at its lower part, and gradually diminishing towards its apex, which was almost free from them, and was the most healthy part of either lung.*

Heart normal; left ventricle filled with soft, black, grumous blood; valves, all well.

Intestines, examined only in spots, seemed healthy. No ulcers near the ileo-cæcal valve. Mesenteric glands, well. Liver, medium size, healthy, dark. No tubercles seen in any of these organs.

It should be stated that, by two microscopists, tubercular corpuscles were found in abundance in the crude tubercles, and a few in the gray semi-transparent condensation of the left

lower lobe, and, on the contrary, none of the appearances usually seen in pneumonia.

The following may be the condition of the lungs in these cases. I observed this peculiar condition of the lung in a young woman, who died at the Massachusetts General Hospital, Dec., 1849. I would premise that she died after two or three weeks illness, of undoubted pneumonia of the right lung, as it seemed to all who saw her. She had the rusty sputa of that disease. The lung was generally tougher than normal, and covered with a thin recent membrane. The lower lobe was solid, and on incision it was found generally with a reddened surface, but studded with masses varying from the size of the smallest tubercle up to that of a walnut, opaque, white and solid, resembling, in fact, in all their characteristics, distinct, isolated tubercles. Had we not known the previous symptoms, we should have undoubtedly considered them as tubercles. The apex of the lung was less seriously diseased throughout, but it contained a few of the smaller masses, and a little cavity. A few of the same bodies were seen in the lower part of the upper lobe.

Notwithstanding the symptoms of pneumonia, I am inclined to believe these bodies to have been tubercles of recent origin, which had excited and kept in existence a hepatized condition of the lung.

Analysis of the Preceding Facts.

I have noticed but eight* cases of this combination of rational and physical signs, since January, 1842, *i. e.*, during nearly thirteen years. Six of these I have already laid before the Society. The two additional cases will be given under the head of DIAGNOSIS. All excepting one have either died of phthisis, or the disease is going on at the present time. That one, after a severe hæmoptysis and the rational signs of phthisis, is said to be healthy at the present time.

Considering it a form of tuberculosis, it is quite rare. Dur-

* Since this paper was prepared I have seen three more cases, and am induced therefore to believe the disease to be rather more common than I have heretofore supposed.

ing the same number of years, I have made records of more than 500 cases of Tubercular Disease, and as only three of the above cases occurred in my own immediate practice, I think we may infer that not more than once in one hundred and fifty or two hundred cases, shall we meet with this anomalous form of tubercular development.

The *ages* of the patients present some curious phenomena, which I think can scarcely be explained by the fact of the greater number of all tubercular cases occurring in early life. Of the seven cases, either fatal or now threatening a fatal result, the oldest is 34, the youngest is 22 years of age, and the average is 25 years.

The *sex* in all the cases was male.

Temperament.—All of the persons thus affected were of an unusually active temperament; and this, taken in connection with the nervous irritability,—apparently the result of the disease,—seems to indicate that, other things being equal, the active, intense excitement of the present time, in every species of business, *may* predispose to this kind of tuberculosis. Of the eight, seven *may*, in the above particular, be fairly ranked with "*Young America*;" all of them having been born in New England, and in the performance of daily duties may be ranked as follows:

Professions.—Three of them were salesmen of large mercantile firms, and were called to a constant, unintermitting exercise of the mind, and exposure of body as travelling agents, &c. Two were clergymen, young, active, and devoted preachers of earnest orthodox doctrines, three times each Sunday, and perfectly reckless of all hygienic rules in the performance of their parochial duties during the week. One was a student in college, stimulated to the last degree with an honorable but deadly emulation of his peers for a prize in declamation, and, Demosthenes like, spouting in the open air. Finally, two traders, both of whom may be considered as being of the above described character, and each claiming to do nearly twice as much as any other man. Not one of the eight presented a single phase of the sluggish disposition. A certain railroad

speed of mind and of body, and a kind of superhuman disposition for work, was the distinguishing trait of all of these unfortunate persons.

Symptoms Precursory of the Serious Symptoms, which Induced the Patient to Consult a Physician.

Cough.—This was noticed as slight or occasional in four, for a space of time varying from three weeks to many months, but it was never a marked symptom. The patients hardly noticed it, and had not consulted a physician for it. In one, it soon became urgent, and ushered in the severer symptoms of disease. In one only was it stated that the patient had never been liable to cough.

Expectoration.—Two had no sputa. In three, hæmoptysis had occurred; and in one it occurred several times.

Thoracic Pains.—In four only were they noticed. One of the persons had no premonitory pains. In three, pains occurred. It was slight in two; and severe in one only, viz: over the region especially affected by disease.

Aphonia.—Had occurred months previously in one case.

Digestion.—Usually not much disturbed; but in only one was it said to be perfect. It was bad in one, and there was loss of appetite and constipation in others.

Urine.—Noticed twice. Once a strong odor and sediment were noticed. In the other case, it was normal.

Fever, &c.—Noticed in five cases. None in two cases; considerable only in one.

General Health.—Mentioned four times. In three it was a little disturbed. Patients felt a little ailing, or had lost a little flesh, but all were able to attend to their business till seized with the more acute symptoms, and needed the attention of a physician.

Exciting Cause.—Loud speaking in the open air, and a very severe exposure to a cold wind in winter, were mentioned as the first causes of the trouble in two cases. In other cases it was not manifest.

Symptoms after the attack, or after the physician was called.

Cough existed, more or less, as in common phthisis, in five out of six cases. In the sixth there was no cough, only a slight occasional hem, for a long time after very extensive physical signs were manifest.

Expectoration.—In one, who had no cough, there were no sputa. In the five others there were the varied appearances seen in phthisis, viz.: in two, hæmoptysis; two had greenish sputa; one had thin and glairy mucus. At times there were ragged and opaque masses.

Thoracic Pains.—In only one were they a prominent symptom. In this they were agonizing on motion. In two they were described as dull.

Dyspnoea.—This was a *constant* symptom. It was slight usually, and scarcely perceptible at first, or only on exertion; but becoming more as the disease gradually invaded the lung. At the latter stage of the disease it was very great, and caused lividity.

Digestion.—Costiveness occurred in three. In two there was some oppression after food. In one only was there decided dyspepsia of some months' duration.

Urine noticed only twice. It was natural in one; dark and of strong odor in another.

Fever.—Little or no fever observed at first in five. But in three there were febrile symptoms at last, as in phthisis proper.

Cephalic Symptoms.—There was an undue restlessness and nervousness about themselves in three of the cases. No delirium or other serious symptom, except toward time of death.

Strength.—In the early part of the disease the patients did not lose their strength. When a fatal result occurred, there was, of course, a gradually increasing debility, as in common phthisis.

PHYSICAL SIGNS.—The most marked sign, and almost pathognomonic of the disease, was a *fine explosion of crepitous râle*, exactly like that heard in pneumonia, and like that perceived at the lower part of the back, or just about the angle of the scapula,

when a certain amount of bronchial respiration was heard at the very lowest part. Unlike the crepitous râle of pneumonia, *it persisted without change for a great length of time, varying from weeks to months.* This sign was heard in all. It was in the lower third of the back in five, and in one of these it extended slightly, and by a well-marked outline, to the front. In one only was it confined to the front. It occurred twice in the right, and four times in the left lung. The shortest record of its existence (and this is imperfect, because the patient left town while it actually existed,) was forty-six days. The longest was twenty-two months!

In four cases, pectoriloquy or bronchophony ensued, after a great length of time, in the spot where the râle was heard; and subsequently, or perhaps at the same time, disease attacked the upper parts, or those more usually seized upon by tubercular disease.

TREATMENT.—In five, an antiphlogistic course was pursued, viz: leeches in two, and mercurials in three; in one instance to slight pyalism. But no effect was produced, the crepitous râle continued as if no treatment had been adopted. In four of these cases the usual treatment for phthisis was subsequently used. In the fifth the iodide of potassium was used faithfully, but without avail apparently, for the disease is advancing.

In cases 7 and 8, detailed under the heading of diagnosis, some effect seemed to be produced either by time and nature or by the treatment.

Appearances at the Autopsy.

In only two have I made an autopsy; both of these were quite chronic. In both the disease was peculiar in the lobe where the crepitous râle had been heard. It was of a uniformly dense structure, or with this were numerous isolated tubercular bodies, and small cavities, containing pus. The lobe, when incised, presented a smooth cut, was less friable, less granular, less purulent than is seen in the third stage of pneumonia, to which it was allied in general aspect. This appearance had

invaded the whole of the lobe of one lung, and, partially so, the lower lobe of the other lung. In one case this part was occupied by a large irregular cavity, exactly such as is seen in tubercular lungs at the apex of the organ.

Usually the disease diminished from below upward, so that in one case the upper lobes were almost free of tubercles, while the middle portions were studded with opaque small tubercles amid healthy lung. In one a cavity was found at the apex. In this case the lower lobe was dense, as above described.

The *pleura* were always adherent, and generally very strongly so; but over one lower lobe that was quite dense was seen a recent soft membrane, and the *pleura* was of a vivid redness.

In one instance, I subjected the specimens in the tubercles, and the gray solid portions, to the examination of two able microscopists. Neither of the examiners found the usual inflammatory corpuscles, but the so-called tubercle corpuscle in abundance.

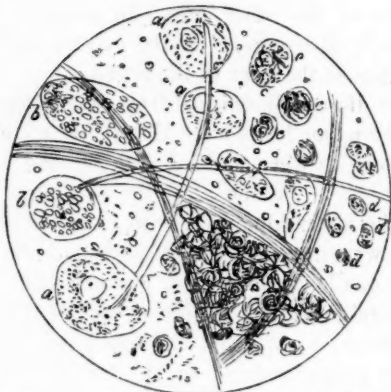
In a third case, (not reported, because seen imperfectly, except as to the diagnosis, and since this paper was commenced,) which presented most of the phenomena already described, only in a more acute form, the following appearances were noticed by Dr. Ellis,* who has kindly allowed me to have them as illustrative of this paper. It seemed as if a regular gradation could be traced from the inflammatory corpuscle in the parts least diseased, and looking least like tubercle, down to the collapsed and shrivelled "tuberculous" corpuscles found in the more diseased parts. I shall return to this subject under the head of "Pathology of the Disease."

* Dr. Ellis made the following report on some small pieces of the lung of a young man who died after hæmoptysis and a comparatively short disease, but with the physical signs as stated above :

To the naked eye the tubercular deposit was present in three distinct forms : 1st, as isolated, round, yellowish white granulations, about a line in diameter, and separated from each other by pale red pulmonary substance ; 2d, as a yellowish white, almost diffuent or gelatinous matter, a small quantity of which only was seen ; 3d, as a yellowish granular substance, containing but little moisture. This last form was most abundant, occupying, in large irregular masses, the place of the pulmonary tissue.

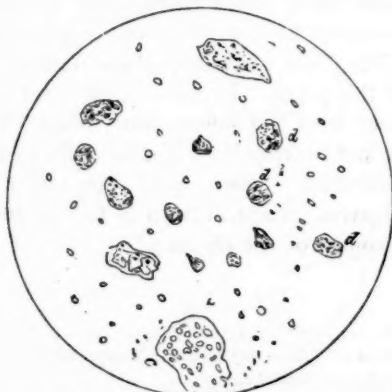
On examination with the microscope, the first two varieties were found to

FIGURE 1.



contain essentially the same elements as represented in Figure 1, viz: epithelium, inflammatory corpuscles, and others of various sizes (the latter unaffected by acetic acid), forming a regular series down to the so-called tuberculous corpuscle. In addition to the well marked epithelium cell, others were seen in which the nucleus was almost obscured by the minute globules, which entirely filled, and gave the peculiar character to, the inflammatory corpuscle.

FIGURE 2.



The appearances in the third variety, are represented in Figure 2. Here the larger corpuscles had almost entirely disappeared, a few fragments only remaining, while the number of so-called tuberculous corpuscles had much increased.

Numerous minute globules and granules, were floating about in all the specimens.

The microscope used was one by Nachet, and with a magnifying power 533 diameters.

FIGURE 1. *a* Epithelium. *b* Inflammatory Corpuscles. *c* Granular Corpuscles, of various sizes. *d* The so-called Tuberculous Corpuscles.

FIGURE 2. *c* Inflammatory Corpuscles partially disintegrated. *d* Same as in Figure 1.

DIAGNOSIS.—This is not always very easy, and at the first view of the facts, it seems to be almost impossible. All the physical signs are those usually attributed to pneumonia, and they are situated in the portion of the lung usually attacked by pneumonia. This class of cases shows perhaps better than most others the great importance of an accurate comparison of the rational with the physical signs. For if we depend upon either exclusively, we shall certainly fall into error. For on the one hand, very serious and alarming symptoms may exist with very trivial signs at the base of the lungs, the apices being entirely healthy; and on the other, there may be almost no rational signs, and the patient may be really almost wholly well, while by the physical signs we shall discover extensive disease at the lower portions of one lung. The two most important elements toward making an accurate diagnosis are—1st, the unusually *long persistence* of a very minute crepitous râle in a limited portion of the lower part of a lung; and 2d, the existence of such a râle in the same part, without any but perhaps the most trivial rational symptom. Cases 1, 2, 4, and 6, may be ranged in the first, and cases 3 and 5 in the second class.

It will be easily seen that in the first class it will be impossible to come to an accurate diagnosis at the first visit. A certain length of time is absolutely necessary. At present I fear it will be impossible to be perfectly sure even after many weeks, or it may be months, of duration of the râle.

The following cases illustrate this remark;—

CASE VII.—The Rev. Mr. C—, aged 27, born in Massachusetts, always a scholar, and always in excellent health, except that he had been liable to constipation, hæmorrhoids, and severe headaches. He had always overtaxed his brain, and had used in earlier times, very freely, tea and coffee, but not tobacco. He had always supposed that his lungs were especially strong, and had been accustomed to preach loud and long, often in the open air; and three times each Sunday he performed his ministerial services, with more than ordinary earnestness. I saw him July 5th, 1853, in consultation, for the

following train of symptoms :—It appeared that four weeks previously, after having been unusually free from headache for some time, he was suddenly seized with cephalalgia, nausea, and vomiting. A little blood was seen in the matter rejected, and the patient felt a severe "blow" at the epigastrium, during one of the last efforts to vomit. The succeeding day, although he was weak, he was easier, having only slight headache on exertion. Forty hours afterward he preached moderately, and felt no inconvenience save debility. During the following week, however, he studied very hard, and preached as usual three times on Sunday. Great prostration ensued. The next morning he hawked up a little clotted blood, and on Tuesday, two tablespoonfuls of arterial blood. He then took to his bed from weakness, and during the four following days raised more or less, never, however, very copiously. During this period he had no tickling or discomfort in his throat; the cough was slight, similar to what he had been liable to for a year, after speaking, but which he had never thought of as of any importance. He had had, two days before I saw him, a slight pain across his chest, and a little under the left clavicle; slight dyspnoea on walking. His appetite had been good until a few days. For his costiveness, he had taken salts and oil four or five times. He had had no chill or heat, but had had an occasional sweat, and had lost flesh.

His hereditary tendencies were not to pulmonary disease.

At my room he seemed quite well, but thin. The tongue had a thin coat; he did not cough; had no change in the voice.

The physical signs were as follows :—On inspection, nothing peculiar. On percussion, fair every where. If any difference, there was a slight difference of pitch in the clavicular region, in favor of the left. Murmur quiet, but vesicular in front, although at times I thought there was occasionally a little less expansiveness about the right than the left clavicle. Voice normal. Behind: Percussion not very clear any where. But the most striking and peculiar sign, was an *explosion of the most minute crepitus r le heard, on full breath, in the lower third of the left back.*

He had been taking an iron mixture. This was continued. He was directed to give up preaching, and to use croton oil to the lower part of the chest.

He returned immediately into the country, and I saw him again July 23d (in about twenty days). The crepitation had then almost wholly left him. It could be just heard on a full inspiration.

Daily bathings and frictions. Chew rhubarb for costiveness. Continue croton oil. Horseback exercise.

Sept. 8th : Had gradually been getting better, and had not preached until two weeks before, when he felt as well as ever. The digestive system had been well, except that he had piles. No cough, but he had raised by hemming in the morning a green substance. Auscultation and percussion seemed perfect. No râle anywhere.

Ung. gall. and stramonii ordered for the piles. Allowed to preach once each Sunday. Horseback exercise five to ten miles daily.

The patient seemed well ; the congestion of the lung was gone, and I saw nothing more of him for exactly one year, when he again called, and related as follows :—

He had preached *twice* daily until July, without cough or any trouble but his habitual costiveness. Eight weeks previously to his visit, he had again a cough, and had raised bloody sputa and some frothy white fluid. His throat had been sore, with almost complete aphonia. One day he had raised a bloody clot with relief to the throat. He could not remain seated without having an unpleasant sensation across his chest ; an excessive faintness and “all gone sensation” along the sternum. He coughed a little in the morning, perhaps ten or twelve times. He had no fever, but a slight heat of the skin ; slight pain in the left chest, six weeks before his visit. At the visit, his pulse was at 96, and his appearance was not very morbid.

The only sign was a little less respiratory sound under the right than the left clavicle, corresponding to where there were *very obscure* signs at the previous visit.

He asked if he might resume his duties in a village near Boston.

I told him that I feared the slight difference of murmur noticed above, and that if he could travel it would be better to

do so. If that were impossible, he must probably be settled. But he must never preach in the evening; he must use porter or wine, and if pain should come on in the chest, he must use croton oil, and, finally, apply nitrate of silver to the throat.

About a week subsequently I examined him again, and was fully confirmed in the opinion that there was a slight tubercular development at the summit of the right lung. This opinion was confirmed by the independent examination of another physician upon whom the patient called soon after I had seen him, having been not wholly satisfied with my own views of his case.

Jan. 20, 1855: I have seen this gentleman recently. He undertook the charge of a parish, and has steadily failed since; and now has crackling and every sign of tubercles throughout the whole of the upper lobe of the right lung.*

The preceding observation is very interesting as affording another illustration of the usually fatal indications to be derived from a fine crepitus râle existing under the circumstances I have noted above. But unlike the others that were fatal, the râle was dependent either upon something more transitory than tubercular matter commonly is, or if dependent on a collection of miliary tubercles, these tubercles were cured by the treatment pursued. I am inclined to the former opinion. But whatever may have been the cause of the sound, the observation seems to indicate that a tubercular diathesis existed from the first, which finally showed itself in its usual place.

But the following observation presents the most formidable difficulties in the way of diagnosis. A year or two more of the patient's existence may class it in the same category with the preceding; but, at present, it stands alone. I have met with no similar case:—

CASE VIII.—I. L. H——, aged 38, Roxbury, superintendant of a steam planing mill. Usually in youth he was in robust health. At the age of 18, he had lung fever, and two or three slight febrile attacks afterward, before the illness began for which he consulted me. For several years he had been liable to headache and costiveness. Two or three years before, had

* This gentleman died recently of phthisis, and cavities were found in both lungs.

slight hæmoptysis after a violent strain, and subsequently he had a disposition to hem. He had often had bloody sputa, and twice had raised more than half a pint. No other prominent symptom, except perhaps a dull pain in the thorax, and some dyspnœa on going up stairs. The exertion of going up an eminence, and, also, excitement of mind, had produced the hæmorrhage. He had been able to lie on either side; no palpitation. Appetite, usually good; bowels, a little costive, at times, for two or three days; urine, well. No hectic, or emaciation, or much debility.

At the time of his visit to my office (Jan. 21, 1853), I found him a tall thin man, but not very unhealthy in aspect. He had at times a slight tickling in his throat. His pulse was regular, 72. Right tonsil a little enlarged; uvula, well. Twenty-four hours previously, he had raised two or three ounces of blood, without coughing or much exertion; and for several days he had, perhaps a dozen times, one or more sputa, daily. He was afraid to lift even the smallest weight, for fear of hæmorrhage recurring.

On examination of the chest, it appeared long, but contracted toward the base. Murmur, everywhere good; no râle, even on coughing; voice, good; heart, normal.

Seven days afterward I saw him again, and learned that he had not raised more than a tablespoonful of blood, and he had felt well save that he had been costive, and had had a little pain in the bowels. On auscultation, similar results to the above. but *on coughing* a slight crumpling was heard in the lowest part of the right back, and a *distinct crepitation in the infra axillary region*. Voice, normal; no bronchial respiration; percussion gave a little less sound there, but no real dulness.

A laxative pill and acid sulph. dilut. gtt. x. were ordered three times daily. Croton oil to chest. Gentle out-of-door exercise.

March 11th: He had been gradually getting better, and had attended to business slightly. For a few days before the visit, he had felt rather less well, and on the 9th raised a little blood, followed by half a pint on the 11th, dark at first. He however had not desisted from business. Omitted drops a few

days before, and had been taking half a glass of madeira wine three times daily.

Crepitation as before, and perhaps a little more toward the mamma. Pulse 84, even after exertion.

Resume acid. Omit tonic. Continue external irritants.

He soon afterwards resumed more fully his business, but avoided all violent efforts. He had occasionally attacks of hæmoptysis, and Nov. 11, 1853, I examined him, in order to see if any trouble remained. None could be found, and the patient seemed well, though unable to labor as hard as before. He continues well now (June, 1855).

In this case I certainly feared the development of tubercles, from the rational signs, and from the absence of any rational signs of pneumonia, and finally, from the persistence of the crepitation (certainly three months). It is the sole one of eight cases, in which the same or similar symptoms and signs have existed, which has not resulted fatally, or the patients are now ill of chronic disease. It is certainly a stumbling-block in the diagnosis of such cases; but the patient may within a year or more prove to be phthisical, as in case seven.

From these two observations it is evident that my first remark, in regard to the value of the long persistence of crepitation, as *pathognomonic* of this form of tuberculization, must not be received with *entire* confidence. Nevertheless, in seven out of eight of the cases the rule holds good, and possibly even in the eighth case the patient may become tuberculous, as I have already suggested.

In truth we may say that if in any case of pulmonary disease which shows itself, either by a few of the more prominent signs of phthisis, such as hæmoptysis, a slight cough, or a disturbance of the general system, &c., or if there be scarcely any thoracic symptom, and yet the patient complains of being less well than usual, we must always make a decidedly unfavorable, though not absolutely fatal, diagnosis and prognosis, if we find a crepitation in the lower portions of one lung, without any other

sign of pneumonia ; more especially if this sound continue without variation for more than two or three weeks.

PROGNOSIS.—The prognosis need occupy us but a very short time, for we see from the preceding article it is very unfavorable for any one to have symptoms and physical signs like those described in the preceding part of the paper. It is not simply unfavorable, but it may be deemed almost necessary to make a fatal prognosis.

PATHOLOGY OF THE DISEASE.—This question is deeply interesting. I think the rational and physical signs, and the results of the microscopic examination of the lungs after death, place this class of cases of anomalous tubercular development, just on the disputed confines between tubercle and inflammation. They do in fact show how the two may coalesce, or pass easily from inflammation to tubercle, and *vice versa*, how tubercle may excite inflammatory action. Looking more closely, we see that the physical signs ally this disease, *at first*, certainly very strongly to pneumonia. By their durability, however, they suggest either chronic pneumonia or phthisis. On the contrary, the rational signs, if at all significant, for at times they are so slight as to indicate nothing distinctly ; these rational signs point to phthisis. Thus, during the whole of the disease, the thoughts of inflammation and of tuberculous disease present themselves. At the autopsy a peculiar appearance presents itself ; a mingling of tubercle with what might pass for chronic pneumonia, and Dr. Ellis has very beautifully traced, by his microscope, in one case, a regular gradation from evident inflammatory exudation corpuscles, down to the so-called tubercular cells.* If it be pneumonia, however, at first, it certainly shows by its course, and by the want of influence exerted by antiphlogistics in its treatment, that it is very different from, and more persistent than, common pneumonia. It may, however, be regarded by some as a scrofulous, slowly developing, inflammation, and not acute plain pneumonia, such as we meet

* See note of Dr. Ellis' examination under "Diagnosis."

with in ordinary practice, and which runs its course in from twenty to twenty-five days.*

TREATMENT.—Alas that it should resemble phthisis so much as it does in usually resisting all treatment. It is true that in two of the cases the crepitus râle disappeared after months of duration, and under treatment, but in one it disappeared only to allow, if possible, graver and more positive signs at the apex. In all the others the disease went steadily onward, unchanged even in the slightest particular by anti-phlogistics, mercurials, blisters, tonics, &c.

My advice in another case, would be, not to rely on medicines, but on constant active out-of-door employments and external irritants. Travelling in foreign climates for the sake of changing, not merely the sky, but likewise all previous habits, should be recommended. A constant irritation by blisters or croton oil should be kept up. In the later periods the cod liver and fusel oils might be resorted to by the practitioner.

This is, in certain respects, a sad termination of our investigations. If, however, the results to which I have arrived are true, they are important, in enabling us to make a more sure diagnosis and more careful prognosis, while they will at least tend to prevent us from the violent heroic, or strongly anti-phlogistic treatment, to which the physical signs undoubtedly tend to lead us.

* Whilst this paper is passing through the press, I find an article by Dr. Cotton,* of London, in which he describes a similar disease, and considers it "chronic pneumonia." Dr. C. does not give any statistics, but he considers that in "by far the greater number of cases the disease terminates favorably under timely and judicious treatment." The differential diagnosis of this disease, from phthisis, Dr. C. decides by the physical signs, which are almost exactly similar to those given in this paper. I cannot agree with him entirely as to the diagnosis, and certainly my experience does not support Dr. C's prognosis. It is an interesting circumstance, however, that two independent observers have been led to notice the phenomenon in question in two such remote quarters of the globe.

* London Medical Times and Gazette, March 31 and April 14, 1855.

Selections from Favorite Prescriptions of Living American Practitioners. (Continued.) By HORACE GREEN, M.D.

Tonics and Stimulants.

Although these two agents are here arranged together, and are frequently combined in their administration, yet they differ essentially in their therapeutic effects. Tonics, although not confined in their action to the muscular fibre, are generally defined to be those "medicinal agents which restore relaxed and weakened muscles to their state of healthful tone, which renew their elasticity, contractibility, and tension,"* and thereby impart strength and vigor to the whole system. *Stimulants*, by increasing the sensibility and irritability of the parts to which they are applied, powerfully augment, through the nervous system, the organic actions. Stimulants exalt the functions of innervation and circulation without imparting permanent strength to the system. Tonics give tone and strength to the muscular and nervous system at the same time, without increasing, necessarily, the action of the heart. "Tonics give strength, stimulants call it forth."

The tone or energy of the system which is gradually acquired through the administration of tonics, becomes permanent, and is not replaced by a consequent exhaustion or depression. The introduction of stimulants into the living body is quickly followed by increased energy of the vital actions, and is succeeded as rapidly by a state of depression or collapse. Stimulants are not indicated when inflammation is present, but "tonics, by imparting strength to the capillaries, operate beneficially in inflammation, even when the use of the lancet is requisite to keep down the action of the heart."† Both tonics and stimulants may produce their effects on the system, by making their impression chiefly on the stomach, or by operating through the medium of the blood, or through the medium of the nerves.

As tonics, strictly speaking, are neither stimulant nor sedative, they may be appropriately, and, often, very usefully com-

* Thompson's Therapeut.

† Thompson.

bined with either. In many cases, where tonics are indicated, and yet from some cause are not well borne, they may be administered, especially the martial preparations, with much safety, and often with great advantage, by combining them with some of the peculiarly sedative medicines. The different forms of iron, whether employed as found in the natural chalybeates, or in the artificial preparations of the chemist, make their primary impression on the digestive organs, augmenting, ultimately, the power of the secretory and excretory systems, and rousing the nutritive faculty in every part of the body.

The following combination of a chalybeate with a stimulant and a sedative has, for many years in our hands, proved a most valuable tonic, particularly when administered during convalescence from disease, and in all debilitated and anæmic cases.

R.	Extracti Conii,	ʒij.
	Sesqui oxydi ferri,	ʒiij.
	Tinct. Columbæ,	ʒiss.
	Syr. Toluta,	ʒss.
	Ol. Gaultheriæ,	gtt. x.
	Aquæ fontanæ,	ʒij.

Fiat mistura; cujus sumat coch. parv. mane ac nocte.

Or the following may be substituted:

R.	Sesqui oxydi ferri.	
	Extracti Taraxici,	aa. ʒss.
	Vini Sherii,	ʒvj.
	Tinct. Gaultheriæ,	ʒss.
	Aquæ font.	ʒiv.

M. Capiat coch. magn. bis in die.

The following is a very excellent tonic, and may be exhibited whenever any of the ferruginous preparations are indicated.

R.	Ferri Citratis,	ʒij.
	Syr. Citri. <i>vel</i> Aurantiæ.	
	Aquæ Menth. pip.,	aa. ʒij.
	Aquæ puræ,	ʒiv.

M. Exhibe cochlearium purum ter quaterve in die.

In young anæmic females, with indications of a chlorotic condition of the system; and also in children of strumous habits, the *phosphate* of iron, exhibited in combination with the sulphate of quinine, is a therapeutic agent of great value.

R.	Ferri Phosphatis,	ʒj.
	Quiniæ disulphatis,	gr. xii.

M. Fiant pulv. xii., quarum. capiat unam bis terve in die.

A physician of great experience, and celebrated for his successful treatment of diseases of females, has employed for many years, and with much advantage, the subjoined combination of an alterative and a tonic in the management of certain forms of uterine disease.

R. Syrup. Ferri Iodidi, ʒj.
Tinct. actææ racemsoæ, ʒv.
Tinct. Rad. Aconiti, ʒij.

Fiat mist. cujus cap. gtt. xx. ter in die.

We have seen engorgement of the os tinæ and non-malignant induration of this organ, disappear rapidly under the persevering internal administration of the above tonic; while, at the same time, the following ointment was applied once a week, by means of friction, with the finger, to the indurated os.

R. Extracti Hyoscyami.
Extracti Conii.
Extracti Belladonnæ, aa. p. e.

To each ounce of which mixture add one drachm of iodide of potassa—mix thoroughly, and apply as above.

R. Ferri Sulphatis, ʒij.
Potassæ Iodidi, ʒiss.
Tinct. Colombæ.
Syrup Zinziberis, aa. ʒij.

Fiat mist. capiat coch. parv. ter in die.

This mixture may be exhibited with advantage, whenever we desire to promote the absorption of glandular enlargements, and in all cases where a tonic and an alterative are indicated.

Not unfrequently the general practitioner will encounter cases of obstinate intermittent; and of uncontrollable neuralgic affections, which will resist, altogether, the effects of the ordinary antispasmodics, when singly administered. In such instances, we have often succeeded perfectly, by the combination and exhibition of a vegetable and mineral tonic,—as the following:—

R. Liquor Potassæ Arsenitis, f.ʒiss.
Tinct. Cinchonæ, ʒij.
Syr. Aurantiæ, ʒj.

M. Hujus mist., sumat cochl. min. bis terve in die.

During the last two years, intermittent fevers have occurred more frequently, in some parts of this city, and in the vicinity

of the city, than for many previous years. In some of these cases, where the disease has proved obstinate, not yielding to large doses of quinine, long continued, we have found it to be promptly arrested by the administration of a teaspoonful of the following mixture, twice or three times a day,—the last dose being administered a short time before the period of the anticipated paroxysm.

R.	Quiniæ Sulph.,	3j.
	Liquor potassæ arsenitis,	f.3ij.
	Acidi Sulph. Aromat.,	f.3j.
	Tinct. Cinch. Co.	
	Syr. Zinziberis,	aa. ʒij.

When the preparations of arsenic are employed, it is safest to give the medicine after a meal. When thus exhibited, larger, or more effectual doses may be given with more safety, than when taken fasting. Should, however, gastric irritation arise, under its use, or swelling and stiffness of the eyelids occur, the medicine should be immediately discontinued.

Should it from any cause be desirable to administer these remedies in the form of a pill, we may employ the following formula :—

R.	Acidi Arseniosi,	gr. ij.
	Quiniæ disulphatis,	3j.
	Conserv. Rosæ,	ʒss.

Misce optime, et fiat massa, in pilulas xxx. dividenda ; sumat unam
Lis quotidie.

We have had, recently, much experience in the use of the different preparations of Manganese, and have become fully satisfied, that this mineral tonic, in its different combinations, will prove a most valuable addition to our pharmaceutic preparations.

The presence of Manganese in the blood, has been fully established by the experiments of MM. Millou, Hannon, and others ; and, recently, M. Burin, in a memoir presented to the French Academy of Medicine, has given an analysis, by which he shows the amount of manganese in the blood globules, and exhibits the condition in which it exists.* It is indeed as constant an ingredient of this fluid, in its normal condition, as iron, and it is well known that a deficiency in quantity, of both these met-

* Bull. de Therapeutique.

als, may be observed in the blood in many cases of anæmia, chlorosis, tuberculosis, &c.; and hence the employment of manganese is proper, in most instances, where the administration of iron is indicated. Frequently, both may be given in combination, with great advantage.

The most important preparations of manganese, for pharmaceutical purposes, are the *phosphate*, the *malate*, and the *iodide* of manganese.

After the subjoined formula, we have administered, in tuberculosis, to a large number of patients, the phosphate of manganese, with most favorable results.

R. Manganesii phosphatis,	3ij.
Tinct. Cinchonæ,	3iij.
Syr. Sarsæ,	3iv.
Mucil. Acaciæ,	3j.
Ol. Gaultheriæ,	gtt. xx.

Fiat mistura, cujus sumantur, coch. duo vel tria minima bis terve in die.

Or we may administer, under similar circumstances, and to the same amount, the manganese combined with some of the preparations of iron ; as in the following :—

R. Manganesii Phospatis,	3iss.
Ferri Phospatis,	3iij.
Tinct. Columbæ,	3ij.
Syr. Tolutan,	3iv.
Ess. Gaultheriæ,	f.3j.

These mixtures should be kept in well closed bottles, and as the manganese is not altogether soluble, the medicine should be shaken before being administered.

The malate of manganese is considered by some practitioners a more eligible preparation, inasmuch as it is quite soluble, and the base of the salt is in the form of proto-oxide, the acid being easily digested.

R. Manganesii malat.,	3ij.
Tinct. Cinch.,	3ij.
Syr. Simp.,	3iv.
Ess. Limon,	f.3j.

Fiat mistura, date coch. parv. mane ac nocte.

The iodide of manganese is an efficient remedy in the treatment of glandular enlargements, especially those of the neck,

and of the spleen, in constitutional syphilis, and in the anæmia arising from scrofula and from cancerous affections.

It may be administered in the form of pills; or, as a mixture in the following formula:—

R.	Manganesii Iodid.,	3ij.
	Tinct. Cardamon,	3j.
	Syr. Sarsa,	3v.

Misce. Sumat coch. parv. bis terve in die.

In a paper published in a late number of the *Bulletin de Thérapeutique*, M. Petriquin recommends a combination of manganese and iron, as a highly valuable agent in the treatment of disease. He has found these combined medicinal bodies, especially useful in blood diseases, such as the chloro-anæmia, after hæmorrhage, operations, metrorrhagia, &c. In the chlorosis which appears about puberty, in that also which occurs at the critical period of women, especially when profuse hæmorrhage prevails, and in the depraved state of the blood, which succeeds intermittent fevers, M. Petriquin has found the fero-manganese preparations of remarkable efficacy.

Note on the Bile of the Terrapin. By CHARLES M. WETHERILL,
Ph.D., M.D.

Streaker, in his researches upon the bile of different animals, has drawn attention to the singular fact that the bile of sea fishes, which live in a medium so rich in soda salts, contains for base chiefly potassa, while the ox, whose nourishment contains principally potassa salts, gives a bile rich in soda, with but traces of potassa.

The following examination was made, to ascertain approximately the nature of the bile of Emys, with respect to this question, the amount of material at command being insufficient for a more particular analysis.

Emys Geographica (Female).—Susquehanna (fresh water) terrapin; weight, 9 1-4 pounds, before boiling. The gall-

bladder could not be weighed at once on opening the animal, but was of the size of an average malaga grape, and left a residue which, when dried at 100° c., weighed 0.6 grammes, and was of a deep yellowish-brown color, and of taste sweet astringent. In strong alcohol the dry residue partly dissolves to a yellowish fluid, of neutral reaction. An equal volume of ether caused but a slight precipitate from this solution; a portion of the clear ethereal liquid evaporated and examined by Pettendoffer's bile test gave the characteristic violet color. The ethereal liquid, together with the precipitate floating in it, after evaporation, was reduced to ash, of which it gave 0.033, or 5.5 per cent. for the dry gall. The ash was white, and fused to a transparent drop, effervescing with acid when cold. Chloride of platinum gave an abundant potassa precipitate, the liquid of which, after evaporation on the microscope slide, gave evidence of a considerable amount of soda, by Smith's test, although the potassa undoubtedly predominated.

Emys Insculpta (Female).—This is the salt water terrapin, esteemed so great a delicacy, and of which so much is eaten in Philadelphia in the Winter season. Neither the bile nor the animal which had been boiled could be weighed. The upper shell measured six inches in length. The gall, which was about half an inch in diameter in its thickest part, and gave, dried at 100° c., 0.103 of green residue, which, dissolved in alcohol, with green color and neutral reaction, gave the same reactions to ether and Pettendoffer's test as the last example. The ash was of the same nature; it weighed 0.0065, corresponding to 6.3 per cent. of the dried residue, and appeared to have potassa and soda in the same proportions as the last.

It seems therefore that the bile of *Emys* contains both potassa and soda salts, the former predominating. It is hardly necessary to say that the animals examined were in a state of hibernation, in which state only it is customary to employ them for food.

PART III.—PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

June 6th, 1855: After the proceedings of the last meeting had been read, and the usual business transacted,—

Reports of special committees being called for, the chairman of the committee on Dr. Green's Paper, concerning Injection of the Bronchial Tubes, stated that they were ready to report.

Leave being given, Dr. WILLARD PARKER proceeded to say that the committee had a meeting soon after their appointment, and elected Dr. STONE secretary of the committee. Rules were laid down for their guidance, several sessions were held, and of all, minutes were kept. It is on these Minutes that the Report is based. Is it not better that the Minutes should be read to the Academy, and the Report afterwards?

On motion, it was voted that they be read by Dr. STONE.

MINUTES OF THE COMMITTEE.

Dr. Horace Green, in a paper on Diseases of the Air Passages, read before the Academy of Medicine, in December, 1854, advocated among other things the introduction of gum elastic tubes into the trachea, and injections of a solution of the nitrate of silver into the lungs.

The President of the Academy, Dr. Jos. M. Smith, appointed the following committee "to inquire into and examine" the proposed treatment:—Drs. W. Parker, A. Stevens, Isaac Wood, B. F. Barker, John O. Stone, J. T. Metcalfe, Jas. Anderson.

Jan. 8th, 1855: The committee were summoned by the call of their chairman. Present:—Drs. Parker, Stevens, Wood, Anderson, Barker, Metcalfe, Stone. Dr. Stone was chosen secretary.

It was concluded after some general discussion of the subject that the committee should endeavor—1st, to settle the question of the passage of the tube into the trachea; and 2d, as far as possible, to ascertain the utility of the injections of the nitrate of silver into the lungs.

Dr. Barker then informed the committee that he was requested by

Dr. Green to invite the committee to visit his office any time, after two days' notice, to witness his treatment.

The invitation was accepted, and Dr. Barker requested to inform Dr. Green that the committee would assemble at his office on the following Saturday, the 13th of January, at 11 o'clock. The committee then adjourned.

Saturday, Jan. 13th : The committee met at Dr. Green's as agreed. All were present, but Drs. Parker and Metcalfe did not arrive until after a number of patients had been examined.

1st Patient.—Mrs. Crumpt. In this case it was proposed to show the passage of the probang. The epiglottis distinctly visible, preternaturally red. The patient was a young woman in apparently good health, but voice had failed for a number of years. Her voice was found to break in singing the low notes. She had put herself under Dr. Green's treatment for hoarseness, and says she is better now than she has been for four years; has pursued the treatment for five or six months.

The instrument was passed with much facility, but could not be distinctly seen by the spectators,—very slight cough was occasioned, and only slight strangulation, consequently the operation cannot be regarded as satisfactory.

2d Patient.—Mrs. Selden,—has no children, catamenia regular, no consumption in her family. Had great pain in her chest, before she came to Dr. Green. Something seemed to form in the throat, which was followed by expectoration, tinged with blood. The cough and expectoration were greatest mornings; the sputa yellow, and mixed with blood. Dr. Green had removed the tonsils. The left sub-tonsillary fossa could be seen ulcerated: Dr. Green regards this symptom as an indication that the left (the corresponding lung) is diseased. Nothing *marked* on percussion or auscultation, but perhaps there may be a shade of dulness under the left clavicle, and also a little diminished respiration on this side.

Patient says she is much improved by the treatment, has very slight expectoration, *not* tinged with blood, nor is it so thick as it formerly was; thinks she has gained twenty pounds in four months. Has been under treatment six weeks.

On passing the probang, no cough, spasm, or suffocation, was produced. On withdrawing it, it was arrested, and Dr. Green directed attention to this fact as an indication of its being embraced by the *vocal chords*. According to the patient's confession, the instrument never excited pain or cough. The course the instrument took could

not be seen, consequently, judging from the symptoms, was not satisfactory.

3d Patient.—Mr. Moore,—not regarded as tubercular. Has been affected with chronic bronchitis for a year last September; never raised blood; has been two to three months under treatment. His flesh has increased within a year. The tonsils and uvula had been removed by Dr. Green. Epiglottis visible, and rather redder than natural.

The tube was passed with a bent wire in it, so as to give it a very slight curvature, and an injection of a solution of the nitrate of silver of the strength of 35 grains to the ounce, was thrown in.

The tube was withdrawn, and another passed with a bladder fastened to its outer extremity. The air was drawn from the bladder, but it was not inflated again by the patient.

In the first operation, the tube may have been successfully passed, but nothing in the symptoms proved its positive presence in the trachea; the second operation with the bladder was unsatisfactory.

4th Patient.—Mr. Crocker,—subject to epilepsy; epiglottis just visible; the tube was passed with the bladder attached. Dr. Stone passed his finger into the mouth and felt the epiglottis and tube, and to him it seemed as if the tube had entered the trachea. Dr. Parker, on making a similar examination, was of a different opinion. Dr. Metcalfe also, on examination with the finger, supposed it to have gone down the œsophagus. The symptoms manifested by the patient confirmed their opinion, for he breathed easily and did not seem to suffer at all. Trial unsatisfactory.

5th Patient.—John Brimmer, aged 35; tubercular; says that at one time he vomited a gallon of blood. The tube was passed without suffocative symptoms, and the nitrate of silver injected. On withdrawing the tube, every drop of the solution was found to be sucked from it. Only a slight cough was caused, and a sensation of warmth excited, the patient says, in the left thorax. He does not taste the solution in his mouth, immediately after it is given, nor even after some time, hours, have elapsed. Dr. Metcalfe designedly passed the tube into the œsophagus, and the patient declared it to be in a different place from what it was when passed by Dr. Green.

6th Patient.—E. W. Butler, an epileptic, discolored with the nitrate of silver, which he had taken some years ago for his fits, when he had left the supervision of the physician who had prescribed it. He applied to Dr. Green for these convulsions, and thought himself benefitted by the treatment with the probang.

The tube was passed, and he was seized with a slight epileptic fit. The tube was at once withdrawn. He soon recovered from the attack.

7th Patient.—Robert Lathrop has never spit blood. On the 1st of September raised pus. Last Winter and this Winter has gained flesh, having lost flesh during the Summer. Has gained more this Winter than he did last, in amount about four pounds. There was diminished respiration at apex of right lung.

Dr. Green introduced the tube with the intention of entering the right bronchus. The injection of the nitrate of silver was given. The patient says he feels the injection in the right lung, first a cold, and then a warm sensation. The matter raised after the injection, the patient says, has the taste of nitrate of silver. The committee did not consider the experiment in this case satisfactory.

8th Patient.—Stillwagon. The probang and tube were both passed. The first caused great irritation, the second very slight. The injection was perfectly sucked from the tube.

The committee then adjourned to meet at Bellevue Hospital on the following Saturday, Jan. 20th, to witness some further experiments, under the care of Dr. Isaac Taylor. Dr. Green was invited to be present at the same time.

Saturday, Jan. 20th, 1855 : The committee met, as agreed upon, at Bellevue Hospital. Present :—Drs. Parker, Barker, Anderson, and Stone. Drs. Stevens, Wood, and Metcalfe were absent. Drs. Taylor, Green, Douglas, and Peaslee, were also present, besides a large number of other medical gentlemen.

Dr. Green, on being informed that the patients now to be exhibited had never been subjected to any preparatory treatment, and, with few exceptions, had never had caustic applied to their throats by means of the probang, stated that he feared that the experiments would fail. In his own practice he always considers it essential to success, to have the probang, with caustic, used daily to the throat for at least a week, before any attempt was made to introduce the tube or probang into the trachea.

9th Patient.—Bryan Turpin has a cavity in the left lung. No applications to the throat had been made previously, but an attempt had been made to introduce the tube. The object of the experiment especially was to ascertain how much the patient could breathe, and how well articulate, when the tube had been passed through the vocal chords.

Dr. Green was the operator. The tube seemed to catch against the vocal chords. There was great spasm and seizing of the instrument by the patient, and great cough afterwards. The patient became alarmed, and desired to be allowed to go. He was persuaded to have another trial made. The instrument caught again, apparently against the vocal chords. In this second experiment there was no spasm, but some cough afterwards.

10th Patient.—Larkinson. Epiglottis just visible; no application had been made to the throat previous to the experiment. Dr. Green introduced the tube; when in, the patient spoke distinctly, and said that it did not hurt him. There was some cough and disposition to vomit; great cough afterwards. Dr. Green, in order to remove some doubts which were expressed, of the tube being in the trachea, proposed to pass one probang into the larynx and another into the œsophagus. Cough was produced on moving the one (said to be) in the œsophagus up and down, no motion was communicated to the other. Dr. Green regarded this experiment as proof that both probangs were not in the œsophagus. Dr. Parker stated that he was not satisfied with the experiment, on account of the absence of appropriate symptoms.

11th Patient.—Mary Norton, has no disease of the lungs, but is a strong and healthy young woman, a servant in the Hospital. She had been experimented on before by Drs. Parker and Taylor, who felt satisfied that they had succeeded in passing the tube into the trachea. The patient readily volunteered herself for the new experiment. Dr. Green passed the tube. Some effort to vomit was created; could articulate indistinctly, but could not breathe through the tube. On withdrawing the instrument she said it went into her stomach. On a second trial by Dr. Green, she shook her head, to indicate that it was not in her lungs, and finally ejected (vomited) through the tube. Much cough was produced.

Dr. Taylor bent the tube so as to form a curve of a circle of some five or six inches diameter, and then introduced it. The symptoms were in striking contrast to those which were produced in the other experiments. There was great cough and spasm, and reddened face, in fact all the symptoms of impending suffocation. A full current of air was sent through the tube, and a candle was blown out readily; on being encouraged to speak, she said, "yes sir," in a hoarse whisper. Dr. Green uses his tubes but very slightly bent at the point.

12th Patient.—Stephen Tompkins, tubercular, no applications had been made before. Dr. Green passed the tube; no cough or much

struggling produced. Dr. Green supposed it to have entered the œsophagus. On a second trial with the tube, it was arrested momentarily, but advanced again on pressure. Dr. Green interpreted this arrest to signify its passage through the vocal chords. Dr. Parker then intentionally passed a probang into the œsophagus, and a second one afterwards, but beyond the first. On withdrawing the last, the first was drawn up also. On introducing both probangs, one after another, into the œsophagus, and passing the second one up and down, the first one held its place. Dr. Barker did not assent to this, and desired to have it recorded that he was of the contrary opinion. No objections were made by the other members of the committee.

13th Patient.—James Kerr, has had nitrate of silver applications to the throat. The object of the experiment was to see, when the probang is introduced into the larynx, how much the patient could breathe: the probang was introduced by Dr. Green. The patient said it had passed into the lungs. Dr. Parker then passed it into the œsophagus, but the patient could not speak.

The *curved tube* was then taken by Dr. Green, but he did not succeed in making it enter the larynx. Dr. Douglas then made an attempt, the tube entered the glottis, and immediately came away of itself.

14th Patient.—John Wiley, a large and courageous man, with a capacious throat. The epiglottis visible; has had no applications to the throat before. Dr. Green passed the tube. There was no cough or struggle. Dr. Taylor then used the curved tube: *great spasm and cough, with livid redness of the face*, was caused. The patient could speak his name, but it was in a *croupy and suppressed whisper*. *He breathed huskily, and could blow out a candle readily.*

The tube was then passed into the œsophagus, in order to show that the blowing out of a candle is no proof that the tube is in the trachea,—there was no struggling or effort made to vomit. This experiment did not succeed.

15th Patient.—John Grindle. The epiglottis could be seen and touched readily with the finger. Dr. Stone, having placed the tip of the index finger of the left hand upon the epiglottis, passed the curved tube into the trachea. *Great cough and suffusion of the face* was produced. The patient could *not speak*. The patient withdrew it himself. Dr. Stone then attempted to pass the tube without the wire, but it went into the œsophagus. Dr. Green then passed it into the œsophagus; the patient *could speak but very indistinctly, but not in a husky voice.*

Saturday, Jan. 27th, 1855. The committee met again at Bellevue Hospital, for the purpose of making new experiments, but especially to ascertain if the tube could be passed with more ease and more frequently, and with less violent symptoms, in patients who had been subjected previously to frequent topical applications of the nitrate of silver to the throat.

It may be remembered that, at the last meeting of the committee, Dr. Green had objected to the patients, because they had not been prepared beforehand, and stated that he considered previous preparation necessary to success in passing the tube.

Each patient to be to-day exhibited, had, since the last meeting, as many as three to five applications made to the throat, under Dr. Taylor's superintendence.

The committee present were Drs. Parker, Barker, and Stone. Drs. Green, Douglas, Taylor, Cock, Peaslee, Glück, and many other medical gentlemen, not including a large number of students, were also present.

Dr. Green mentioned that in recent experiments, since the last meeting of the committee, he had succeeded best in passing the tube in new patients, when the tube had a large curve given to it, as used by Dr. Taylor.

16th Patient.—Michael Gorman. Dr. Green used the tube *slightly* bent, and endeavored to pass it. The patient vomited, but none of the fluid came through the tube. Several trials were made, all of which caused vomiting.

17th Patient.—John Burns. The patient was excited, and all attempts failed, from his want of courage.

18th Patient.—James Martin. Dr. Green passed the tube; it went into the œsophagus; the patient was timid, and indisposed to have any attempt made.

These patients were nervous and timid, the vomiting of the first one excited the rest, and upon the entrance of the tube into the mouth they gagged and became unmanageable. Dr. Green regarded them as unprepared for the experiment, for, as he said, his own private patients never acted in this manner, nor did their throats, after previous preparation, manifest such irritability.

19th Patient.—Stephen Tompkins, experimented upon at the last meeting of the committee. The tube was passed by Dr. Green. The patient could not blow through the tube; it passed into the œsophagus. On a second trial it also passed into the œsophagus.

20th Patient.—John Wiley. Dr. Green passed the tube, more

curved than in his usual experiments. The candle was blown out. The patient vomited while the tube was being introduced and while it was in, but none of the fluid ejected seemed to come through the tube. In this case there was no spasm or suffusion of the face.

21st Patient.—Charles Singleman. Epiglottis visible. Dr. Green passed the tube. The patient vomited through the tube. On the second trial, great gagging, and finally vomiting through the tube.

On the first trial the tube was supposed by Dr. Green to be in the trachea, until the patient vomited, and thus showed that it was in the œsophagus.

22d Patient.—Anthony Annikin vomited on depressing the tongue. On a second trial with the probang, vomited. There was no proof to the spectators that it was in the trachea, although Dr. Green was of this opinion. On a third trial, vomited on depressing the tongue; on a fourth trial, ditto.

23d Patient.—Patrick Larkin. Dr. Green passed the tube. On first trial, it went into the œsophagus. On second trial, it was doubtful; the holes in the tube became blocked with mucus. The patient could not speak. Dr. Green thought it had passed into the larynx.

24th Patient.—Martin Coyne. On first trial, he pulled out the tube. On second trial, he spoke his name. Apparently it was in the œsophagus. On third trial, vomited through the tube, with much struggling.

25th Patient.—Isaac Griffin,—very deaf man. Dr. Taylor mentioned that this man was affected with secondary syphilis and tubercles, and that he had succeeded in passing the curved tube into the trachea, but on withdrawing it, it had assumed a double (sigmoid) curvature. On first trial with curved tube, Dr. Taylor entered the œsophagus. Dr. Stone then felt for the epiglottis with the left index finger, and passed the curved tube into the trachea. There was no spasm, and the patient breathed freely through the tube. The success of the experiment was admitted by all. A solution of the nitrate of silver was then thrown in without any spasm. It is proper to mention that this patient was in a very feeble condition when this experiment was tried. This fact may perhaps in a measure account for the little distress caused in the passage of the tube. The syphilitic affection of the trachea undoubtedly contributed also to render the parts insensible.

After the committee adjourned, this patient was visited in the ward by Drs. Parker and Stone. He was made to hear, by applying a flexible stethoscope to the ear. He said he felt worse since the ex-

periment was made. He was much agitated. His sphincters had become relaxed, and he had defecated in his clothes. The cutaneous circulation was impeded, and he was enfeebled and exhausted.

26th Patient.—James McCormick. Epiglottis seen to be thickened. The pharynx red and irritable. Dr. Green tried the tube slightly bent. The first trial failed; on second attempt the tube seemed to have entered the glottis, but was pulled out by the patient.

27th Patient.—John Henry,—resisted, and pulled away the tube. The experiment failed.

28th Patient.—John Logue,—has had the nitrate of silver applied to the throat four times previously. On first trial, the patient resisted. Dr. Stone then took the tube, much curved, and feeling for the epiglottis with his finger, passed the tube into the larynx. The patient breathed through the tube. *The face became suffused, and there was great spasm and threatening suffocation, so that it was withdrawn almost immediately after its introduction.*

29th Patient.—Mary Norton, the servant maid who volunteered last Saturday for the experiment, and in whom the tube was successfully passed into the trachea, to every one's satisfaction, came forward again, for a new trial. Dr. Green passed the tube bent, as usual with him, a *very little*, and successfully introduced it into the larynx. *There was great spasm, redness of the face, and cough, and although she has now had the tube passed several times there was no diminution of the symptoms of suffocation. She breathed through the tube with a full current. Speaks her name when told to do so in a husky and almost inaudible whisper. Dr. Stone afterward designedly passed the tube into the œsophagus, and the patient, when told to speak, said, in a loud voice, "it is in the stomach."*

This experiment showed that the tube, slightly bent at the point, can be passed into the trachea. Dr. Green claims an equal success with all his patients. In all the successful cases, *i. e.*, when the tube passed to the satisfaction of all into the trachea, there was *great spasm, with the exception of the deaf man.*

The committee agreed to meet on the following Thursday, at 1 o'clock, at Dr. Green's office, to witness his success with patients that had been prepared for the experiment under his own supervision.

The committee then adjourned.

Thursday, Feb. 1st, 1855: The committee met as agreed upon at the previous meeting, at Dr. Green's office. Present:—Drs. Parker, Stevens, Barker, Anderson, Wood, and Stone. Dr. Metcalfe was

absent. Besides these, there were present, Drs. Green, Douglas, Glück, &c.

At the previous meeting Dr. Green had objected to the patients as imperfectly prepared for the experiments; that the application of the nitrate of silver to their throats had not been made with sufficient frequency, and consequently the patients resisted and rendered it impossible to pass the tube when only *slightly bent* at the point. He promised us a greater success in his own patients, and the chief object of the present meeting was to witness his success.

30th Patient.—Messmore,—has been at various times for the last nine months under treatment. Once a week, or every two weeks, had come to Dr. Green's. An abscess had formed in the right tonsil, which had been followed by fistula, through which pus could be squeezed. The tonsil had been removed by Dr. Green at several operations, and latterly the fistula had been laid open with the knife. Pus can be made to exude from the tonsil on pressure. The patient has never had cough. His family have been long lived; none of them tubercular; and his own health is apparently good. His digestion is generally good, but in his wanderings had been compelled to live on unsuitable food, and then his digestion has suffered. The patient is interested in his case, talks much about it, and has made it an especial study. Has even dissected the dead body for information, and thinks he can tell by the difference of the sensations produced, whether the tube passes into the trachea or œsophagus, and also can tell by his sensations, that the injections of the nitrate of silver pass into the ramifications of the bronchia.

The epiglottis is visible on depressing the tongue, and the tube can be seen to enter the glottis. The tube was passed without much struggling, and air was freely expelled through the tube. An injection of two to three drachms of a solution of the nitrate of silver of the strength of thirty to forty grains to the ounce, was then thrown in. All present were satisfied, I believe, that the experiment was successful. The patient, a few minutes afterward, coughed up the injection, or rather, what he raised had the taste of the nitrate of silver.

31st Patient.—Mr. Crocker, an epileptic. On first trial by Dr. Green, the patient spoke and said it was not in the trachea. On second trial, the patient spoke distinctly, consequently the tube was believed to be in the œsophagus. On the third trial, Dr. Stone, with a finger on the epiglottis, passed the curved tube into the trachea. The patient *could not vomit*; there was great *suffusion of the face* and

spasm, which, after a little while, became allayed; *air was driven in a full current through the tube*. It was conceded that the tube was fairly in the trachea. The injection with the nitrate of silver was not given. On withdrawing the tube, there was much irritative cough, and Dr. Green said that he would allay it by passing a probang with the sponge dipped in nitrate of silver into the glottis. This was done and success followed the experiment. This patient had presented himself to the committee at the previous meeting at Dr. Green's. Dr. Green repeated his statement that the curved tube could be passed with greater ease in new and unprepared patients, but that the tube slightly bent could be passed with equal facility in those who had been properly prepared.

32d Patient.—Mr. Stillman has had the injections of the nitrate of silver fifteen or twenty times. Usually feels no sensation afterward, except when the stomach is empty, when there is slight nausea. He thinks he can tell whether the tube is in the trachea or œsophagus. Has had severe bronchial troubles, but no tubercles have been discovered. Did have some night sweats until he came under Dr. Green's care, but never to any great extent. Has raised some discolored sputa, tinged with blood, but no blood since he has been under Dr. Green's care. Raises about two ounces of sputa daily, which is an increase, compared with what there was formerly. Has gained five and a half pounds of flesh.

The tube, *more than usually curved*, was passed by Dr. Green,—great spasm was caused, and the tube was withdrawn by the patient. After the lapse of a considerable period of time, during which the committee were engaged in examining other patients, Mr. Stillman was tried again. He objected to the curved tube as causing unusual suffocation.

Dr. Stone passed the tube without the wire, and the patient expelled air through the tube, but very slightly, and not in a full current. It was believed to be in the œsophagus.

The patient was excited, like some of the others, by the presence of so many spectators, and the failure of the experiment was attributed by Dr. Green to this unusual circumstance.

33d Patient.—Dr. Pulling. The tube was passed by Dr. Green. The patient could not say, positively, whether it was in the œsophagus or trachea. It was probably in the œsophagus. After the lapse of a little time, Dr. Pulling consented to allow Dr. Stone to try the curved tube while his finger was upon the epiglottis. The epiglottis

could be reached with difficulty, and only occasionally. The experiment was a failure ; the instrument passed into the œsophagus.

34th Patient.—Robert Lathrop,—was experimented upon at a previous meeting of the committee, when, although the injection was given, the committee did not consider the experiment satisfactory. To-day Dr. Green fairly passed the tube, to the satisfaction of all, into the trachea. The injection was thrown in. *Throughout, the spasm and cough were great.*

The patient said the effect *was different from that usually produced, the cough greater*, and the sensation after the injection was higher up in the chest on the right side. To explain this last symptom, it was mentioned that the tube had not been introduced so far as usual.

The committee consulted together, and after having received an invitation from Dr. Green to call singly at his office and examine his practice, adjourned.

March 23d, 1855 : The committee were called together by their chairman, and met at Dr. Stone's. Present :—Drs. Parker, Wood, Metcalfe, and Stone. Dr. Anderson was absent ; so were Drs. Stevens and Barker, who were out of town. The notes of the experiments made at the different sessions of the committee, were read, and much discussion followed. The chairman was anxious to gather the opinions of his associates, in order to be aided in making his final report.

It was concluded that the tube could be passed into the trachea, but in order to decide when this was successfully done, there was *nothing to guide us but the symptoms manifested. These were cough, livid redness of the face, strangulation, husky voice, croupy whisper, and breathing through the tube in a full current.*

June 5th, 1855 : The committee met at Bellevue Hospital. Present :—Drs. Parker, Anderson, Barker, Wood, and Stone, of the committee. Drs. Taylor, Smith, Gourley, and four others, of the hospital, were also present. Dr. Metcalfe came in during the second experiment.

35th Patient. Elizabeth Peastor, aged 25. Diminished respiration, with prolonged expiration on right side. Cough ever since last summer. Phthisis in early stage ; no cavity. No instrument used before. Epiglottis visible on depressing tongue with spatula. Pale.

Probang passed by Dr. Taylor. Breathed easily; no suffusion of face or redness of any kind. Some sickness, but no vomiting. Instrument kept in for five minutes. Respiration a little embarrassed at first, but became calm and regular; could speak indistinctly, but not croupy. The *curved* tube, a quarter of an inch diameter, taken, in order to see if there is difference of symptoms manifested. Instrument moderately curved, with wire in. Dr Taylor operator—index finger in mouth to guide point—instrument caught in glottis, causing some suffusion of face and lachrymation, but it passed immediately over into the œsophagus. The symptoms of suffocation were intense, red and livid face, struggling, great cough afterward, and patient avows that the tube was in a very different place than where the first was. (The probangs were obtained at Dr. Green's.)

36th Patient.—Melvira Mosier, aged 24; slight cough two months. No disease of lungs discoverable; patient affected with primary syphilis. Epiglottis visible on depressing tongue. Dr. Taylor attempted to pass Dr. Green's probang. A little cough on its passage, and some effort to vomit. No suffocation. It passed into the œsophagus. A curved probang was next used, to show that it could be passed, and that the symptoms indicated clearly when it had been successfully done. 1st attempt did not succeed. 2d attempt, Dr. Stone tried with his finger on epiglottis; it seemed to catch in the glottis, causing suffocation, and seemed then to slip into œsophagus. The sponge was acknowledged to be too large. 3d, trial with curved tube. It just entered, and then stopped. 4th trial, curved tube not successful. 5th, the probang bent over a lamp to produce a large curve. No suffocation caused; breathed easily; it evidently passed into the œsophagus. 6th, tried curved tube again. It passed into œsophagus. We infer this much from absence of suffocative symptoms. No applications had been made to throat before.

37th Patient.—Catherine Philips, aged 24. The tube introduced on June 3d into the trachea, by Dr. Taylor. No cough or diseased lungs. Primary syphilis. Epiglottis visible on depressing the tongue. Dr. Stone made two attempts with Dr. Green's probang, both times it passed into the œsophagus. The epiglottis could not be reached with the finger. Vomiting was caused in withdrawing the instrument. Dr. Taylor tried the curved probang. It passed

into the œsophagus. Dr. Barker tried with spatula on the tongue with Green's probang. His object was, to pass the instrument rapidly, and thus surprise the epiglottis, as it were—failed. Dr. Barker tried again, with slightly curved tube. She bore it well for a time. Ejected air through the tube, and from this circumstance, although there was no suffusion of face or suffocation, some thought it was in the trachea. She finally vomited, which proved this supposition to be incorrect. Dr. Barker admitted it to be in the œsophagus. Dr. Taylor then tried with curved, and from redness of face, rapid movement of body and limbs, and inability to breathe, there was no doubt that it was in the trachea.

38th Patient.—Mary Hewitt, aged 22. No cough. Curved probang by Dr. Taylor; it passed into the œsophagus. Tried again, and from livid color and partial asphyxia, it was undoubtedly in the larynx. It entered glottis, but could not be passed, from spasm, etc. It had entered the glottis. One application before today had been made to the throat.

Catherine Philips,—the patient before last, tried with curved probang by Dr. Parker, finger on epiglottis, instrument rested for a moment, and slipped into the œsophagus, causing vomiting.

Minutes read, and after some conversation, adjourned.

JOHN O. STONE, M.D., *Secretary.*

Dr. WILLARD PARKER then proceeded to read his Report, which was stated to be the Report of the Committee :—

MAJORITY REPORT.

The committee to whom was referred the Paper of Dr. HORACE GREEN "On the Employment of Injections into the Bronchial Tubes and Tubercular Cavities of the Lungs," beg leave to report,—

That they have given this subject that serious attention which its importance demands, and respectfully submit to the Academy the result of their investigations.

At the preliminary meeting of the committee, held on the 8th of January, it was determined,—

1st. To settle the question of the passage of the Instrument into the Air Passages.

2d. To ascertain, as far as possible, the utility of Injections of Nitrate of Silver into these passages.

The committee met on five different occasions. Twice, viz : on the 13th of January and on the 1st of February, at the office of Prof. Green ; and three times, viz : on the 20th and 27th of January, and on the 5th of June, at Bellevue Hospital. At these different meetings thirty-eight patients in the aggregate were submitted by Dr. Green and others to the test of the operation of passing instruments into the air passages, and then of the injection of nitrate of silver into these air passages.

The details of these experiments will be found appended to this Report, of which they are the basis.

1st. As to the practicability of the operation of passing Instruments into the Air Passages.

This division of the Report may be considered under the following heads :

1st. *The History of Catheterization of the Air Passages.*

2d. *The Results of Experiments with Instruments.*

3d. *The Facility with which the Operation may be Performed.*

The History of Catheterization of the Air Passages.

The introduction of tubes into the air passages is by no means a recent operation. It was recommended by Hippocrates in severe angina, where suffocation was impending, and seems to have been long practiced, in preference to bronchotomy.

Dessault, among modern writers, also recommends it strongly. Mr. Ryland, in his Treatise on Diseases of the Larynx, devotes a short section to this operation, and discusses familiarly its practicability and utility. Other authors, whom we need not mention, allude to it as a matter of history.

Results of Experiments.

The results of the series of experiments, instituted by your committee, confirm the records of history, as to the practicability of the operation of Catheterizing the Air Passages. In eleven cases it was

performed to their entire satisfaction. The evidences on which they rely as proofs of its success, are,—

1st. The detection of the tube in the cavity of the larynx, by the finger passed into the mouth. This was done in some cases by several of the committee, and was demonstrative of the position of the tube in relation to the laryngeal opening.

2d. The symptoms manifested by the patient. The symptoms which mark the entrance of the instrument into the larynx, and its progress along the air passages, are unequivocal, and need to be witnessed in but a single instance to be recognized at once in every subsequent trial. They are, indeed, such as we ordinarily witness when foreign bodies enter these passages, and reasoning *a priori*, such as we would naturally expect would be present. The instant that the tube enters the larynx, the patient is seized with a violent spasmodic cough, the face becomes red and anxious, and the patient manifests an eager disposition to withdraw the instrument, or escape from the hands of the operator. While the tube enters the rima glottidis these symptoms reach the maximum of their intensity; from being suffused and anxious, the face becomes swollen and livid; the veins of the neck and face become turgid; the eyes wild, prominent, and overflowing with tears; the respiration, for the moment interrupted, is renewed with long, loud, and croupy inspirations and expirations, attended with violent spasmodic cough and forcible ejections of bronchial mucus from the tube. So overpowering is the sense of suffocation at this moment, that the patient is with difficulty persuaded to allow the tube to remain, or that his attention is diverted to other objects. If by assurance that the operation is complete, and that his sufferings will not be increased by the presence of the instrument in his throat, he can be quieted, the cough and sense of suffocation in some measure subside, and an opportunity is offered of testing the powers of speech. In every instance where the patient was induced to attempt to speak under these circumstances, the only voice emitted was a hoarse, croupy sound, which could with difficulty be construed into the simple words "yes" or "no."

In striking contrast was the train of symptoms developed on passing the instrument into the œsophagus. Retching and cough usually followed its first introduction into the fauces, and as it penetrated more deeply, vomiting sometimes occurred. There was little or no anxiety manifested, no dyspnoea, and the voice, frequently hoarse and distinct, was often quite natural. The patient soon became quiet and composed, and allowed the experiment to be indefinitely prolonged.

The symptoms which distinguish the passage of an instrument into the trachea and œsophagus, may thus be contrasted :—

TRACHEA.	ŒSOPHAGUS.
1st. Suffusion of the face, rapidly increasing to turgescence and lividity.	1st. Suffusion of the face slightly, rapidly subsiding, with cessation of retching and cough.
2nd. Great anxiety and alarm, not easily pacified.	2nd. Little anxiety, easily pacified.
3rd. Eyes wild, staring and overflowing with tears.	3rd. Eyes natural, slight suffusion from tears.
4th. Cough violent and spasmodic.	4th. Little or no cough.
5th. Respiration greatly disturbed; inspiration loud, hoarse and stridulous, expiration attended with violent cough, like that of laryngeal phthisis, ejection of bronchial mucus through the tube, and finally free breathing through the tube.	5th. Respiration little if at all disturbed.
6th. Voice extinguished; a hoarse whisper, interpreted with difficulty.	6th. Voice distinct, often quite natural.
7th. Retching slight.	7th. Retching and vomiting a common symptom.

So prominent and characteristic are the symptoms which the patient manifests on the successful introduction of the instrument into the air passages, and so strikingly do they contrast with those witnessed when it enters the œsophagus, that your committee came to regard the rational signs as the surest criterion of the success of the operation. In but a single well marked instance did they fail of being exhibited with characteristic intensity. In this case the patient had suffered from a syphilitic ulceration of the air passages, and to this circumstance, together with the enfeebled condition, we may attribute the absence of severe symptoms. Dyspnœa and lividity of the face, were the only evidence of the success of the operation. In case 30 (Messmore), the characteristic symptoms were also less marked.

We would therefore establish it as a rule, to which ordinarily there are no exceptions, that the rational signs, above tabulated, will differentially distinguish the course which the instrument takes, whether into the laryngeal or œsophageal passages.

Other tests than those above enumerated were employed to prove the practicability of this operation, but none of them were found on trial free from objection.

The power of the patient to blow out a lighted candle, and to collapse and inflate at will in respiration, a bladder attached, to its free extremity, through the tube, has been much relied upon as a proof that the tube had entered the trachea. But it was found that when

the tube was purposely passed into the œsophagus, the same effects were still produced, though in a much less degree.

The passage of two sponge-armed probangs into the throat, and by the withdrawal of the lower, and calculating the position of the other, whether in the œsophagus or trachea, did not, as far as experimented with, yield satisfactory results ; for it was not proved to the satisfaction of the committee, that the sponge probang entered the larynx and trachea.

The sensations of the patient are reliable only where the tube has been repeatedly passed both into the trachea and œsophagus. In these cases patients have very promptly and correctly decided which passage the instrument was entering. This fact was strikingly illustrated in case 11 (patient, Mary Norton), on whom the operation was repeatedly performed, before she was brought before the committee.

On the first and second trials by Dr. Green of the introduction of the tube, she shook her head, indicating that it had not entered the larynx. The operator was satisfied, however, on the last trial, that the tube had penetrated the trachea, and that the sensations of the patient were not to be relied on, when she ejected a portion of the contents of the stomach through the tube, and thus demonstrated not only the position of the instrument, but equally the correctness of her sensation.

It appeared very evidently, also, in the course of these experiments, that the opinion of the operator, as to the course which the instrument takes, is unreliable, when he trusts to his own senses, and disregards symptoms. We witnessed in cases 11 and 21, the fallacy of Dr. Green's opinion, as to the success of his experiments, though based on so large an experience. In both instances, while positive that he had successfully passed the instrument into the trachea, the patients vomited through the tube, and thus demonstrated his error. But little less demonstrative of the same fact, was the frequent assertion of Dr. Green, on first passing the instrument, that it had entered the trachea, and his subsequent doubts, and admissions of failure, on a close examination of the case.

The Facility of the Operation.

While these experiments proved conclusively to the mind of your committee the practicability of passing tubes into the air passages, they also afforded opportunity of witnessing the facility with which

the operation is performed under different circumstances and with different instruments. These we shall consider—

1st. As regards the previous preparation of the patient.

2d. As regards the Instruments employed.

Previous Preparation of the Patient.

It is contended that the facility with which the instrument is introduced, depends much upon the previous preparation of the patient, by the frequent applications of the nitrate of silver to the upper parts of the larynx. To obviate this objection, the committee met twice at Dr. Green's office, to witness the experiment upon patients whom he was treating with local applications to these parts,—and at the second visit at Bellevue Hospital, the patients were selected from a class which had been expressly prepared for the experiment by application of caustic to the throat from three to five times during the preceding week.

The results of these experiments, however, do not sustain the above assertion. The patients on whom Dr. Green had been operating for six months more or less, were as intolerant of the actual passage of the instrument into the trachea, as those first submitted to the trial, with the exception of Messmore. The case of Mary Norton (case 11) is in point. Although the tube in her case had been passed into the trachea half a dozen times previously to her coming before the committee, still she exhibited, in the most marked manner, all the evidences characteristic of the introduction of a foreign body into the air passages, when the tube was successfully passed. It should be stated that in the case of Messmore (case 30), who had been long under treatment, the presence of the tube was better tolerated.

Instruments Employed.

The facility with which catheterism of the air passages is performed, seems to depend in a great degree upon the instrument used; and these we now propose to consider.

The instruments employed in these experiments, were,—

1st. A tube, consisting of Hutchings' catheter (No. 10), with a wire stilet, and bent with a curvature corresponding to a circle of six inches in diameter.

2d. A tube of the same size, slightly bent at its extremity. This was the instrument selected by Prof. Green, and is the one he is accustomed to use in practice.

3d. A sponge-armed probang, the sponge having a diameter of from one-half to three-fourths of an inch.

The results of the experiments with these several instruments, was as follows :—

	<i>No of Trials.</i>	<i>Failed.</i>	<i>Succeeded.</i>	<i>Per cent. of Failures.</i>
Tube with large curve,	13	5	8	about 38
Tube with small curve,	38	35	3	about 92
Sponge Probang,	18	18	0	100

From these experiments it appeared that the instrument best adapted to succeed in catheterism of the air passages, is a tube having a large curve, or one shaped like a common catheter, while that least adapted to enter the trachea, is the sponge-armed probang. We will briefly review our experiments with these several instruments, and—

1st. *The Tube with the Large Curve.*—This instrument was introduced into the trachea seven times, to the entire satisfaction of your committee. The fact that the operators were successful seven times in nine trials, proves that this tube can be introduced with much certainty into the air passages. In operating, the tongue should be pressed forward by the finger passed over the epiglottis, and the tube passed deliberately and cautiously along the finger into the larynx. The finger is preferable to a spatula, in depressing and protruding the tongue.

2d. *The Tube with the Small Curve.*—This is the instrument selected by Prof. Green for the catheterization of the air passages, and is that which he uses in practice. In these experiments he was the only one who employed it ; and the result shows, that even in the most practiced hands it fails in entering the air passages in about 90 per cent. of the trials.

3d. *The Sponge Probang.*—This instrument afforded the least satisfactory results of any used. Notwithstanding the most persevering efforts with the whalebone slightly bent, as used by Prof. Green, and with patients who quietly submitted to the test of experiments, the results were entirely negative. In no instance did it satisfactorily enter the trachea. In two instances, with the whalebone curved like a common catheter, the sponge was thought to have entered the larynx, but with repeated efforts it could not be forced between or beyond the vocal chords. The suffocation was so great each time, as to compel a withdrawal of the instrument.

These experiments, as far as they have been carried, justify the conclusion, in the minds of your committee, that the sponge-armed

probang, with the extremity slightly curved, cannot enter the air passages, but that if the curve correspond to that of a common catheter, it may be made to enter the larynx.

The bearing which these facts have upon the assertions, "that this method of medicating the larynx and trachea is accomplished with much ease, and ordinarily with great certainty," and "that the sponge-armed probang . . . has been in a thousand instances, thrust down between and beyond the vocal chords, and has been carried not only through the trachea and bifurcations, but . . . has been passed *at will* into the right or left bronchial division," your committee leave it for the Academy to decide.

When it is observed that the tube with which Prof. Green is accustomed to throw injections into the air passages, fails of entering the trachea in 92 per cent. of the trials, it cannot fail to appear that medication of these passages by means of this instrument, is a difficult operation, and seldom crowned with success. Still more striking is the fallacy of the declaration, that the sponge probang is readily passed through and beyond the vocal chords; and frequently, and at will, passed into the right or left bronchial division, when in this series of experiments it was not once made to enter the trachea.

II. *The Utility of Injections of the Nitrate of Silver into the Air Passages.*

The practicability of introducing an injection into a tubercular cavity, involves as a necessary condition, the introduction of a tube into or near that cavity. As your committee have no evidences of the practicability of passing a tube into tubercular cavities in the lungs, they will be excused from considering, on any merely theoretical grounds, the question of the probable utility of injections into such cavities.

In three patients, injections of nitrate of silver were thrown into the air passages, two were under Prof. Green's care, and one was an inmate of Bellevue Hospital. The first two did not again come under the observation of your committee, and they cannot speak of the results. The correspondence giving a history of the last case, which terminated fatally, is as follows:—

NEW YORK, April 5th, 1855.

WM. FROTHINGHAM, M.D. :

Dear Sir, I will thank you to send me an account of the condition of Isaac Griffin, previous to the 27th of January, when the nitrate of silver was injected into the lungs, and his appearance afterwards,

up to the time of his death. Please give me an accurate account of the post mortem appearances, and anything else of interest touching the experiment in his case. I remain, your friend,

W. PARKER.

BELLEVUE HOSPITAL, April 15th, 1855

DEAR SIR, In answer to yours of the 5th inst., requesting an account of the case of James Griffin, I send a copy of the notes which I have by me.

Jas. Griffin, aged 55, stone-mason by trade, native of Ireland, admitted Jan. 17th, 1855. Had symptoms of phthisis, for about eight months prior to admission. On physical examination, signs of tubercles in both lungs, and of a small cavity at apex of right lung, were discovered. Some suspicion of syphilis, but nothing certain made out. Has chronic inflammation of fauces, and a small ulcer upon one tonsil. Is somewhat deaf. Has neither night sweats nor diarrhœa. Pulse in the afternoon about ninety, but less frequent in the morning. Appetite tolerable. General condition rather weak, but is not confined to bed. Takes his meals at the common table, and, living in the second story, goes down to the yard to attend to the calls of nature. Has some dyspnœa, after ascending stairs. This was his condition up to the afternoon of Jan. 27th, no material change having occurred since his entrance.

On the afternoon referred to, between one and two drachms of a solution of arg. nitrate, of the strength of two scruples to the ounce, were injected into his trachea. I saw him within ten minutes of the operation. He was then endeavoring to find his way down stairs to his ward, his mind seemed much confused, and he could speak with difficulty. Being conducted to the ward, he was shortly after seen by Dr. Stone, yourself and me. He was then laboring for breath, his lips and hands livid, extremities cold, pulse 120 to 130, and thready. An involuntary evacuation of his bowels into his pantaloons had occurred.

By the application of external heat, mustard to the epigastrium, and brandy and carb. ammonia internally, reaction was established in a couple of hours.

The next morning he was too feeble to sit up, and had to be propped in bed, that being the easiest position for him. There was great dyspnœa, with a rapid weak pulse and lividity of surface.

But little could be learned by auscultation, loud bronchial râles disguising other sounds, if others existed. Death took place Jan. 28th, about 4 P. M., within twenty-six hours of the operation.

Autopsy seventeen hours after death. Abdominal viscera healthy, except liver, which was a little fatty. Heart and great vessels healthy. Fauces inflamed. Larynx and upper part of trachea healthy. About three inches down the trachea, an intense and minute injection of the vessels of the mucous membrane commenced and continued down into the minute bronchi.

Nearly all those parts exhibiting the inflammatory blush, were

obscure by an opaline appearance, similar to that observed on mucous membranes which have been washed with nitrate of silver. This faded away after an hour of exposure to the air, leaving the intense redness still more distinct.

The bronchial tubes, from their third ramification downward, were filled with a greyish white, slightly tenacious secretion, of the appearance and consistence of coagulated pus. This was not adherent to the walls of the tubes. On microscopic examination, it was found to contain pus corpuscles, in moderate quantity, granular exudation corpuscles, blood globules, epithelium and an abundance of granular matter. When the lung was held in its natural position, the tubes leading to the cavity ascended and (as well as the ascending tubes of the opposite lung) appeared to have received but little of the injected solution, and the inflammatory appearance extending up them but a short distance. The plugs of greyish matter were here co-extensive with the inflammatory blush. The cavity and adjacent tubes presented no indication of having received any of the solution.

* * * * *

I remain, sir, yours truly,

WM. FROTHINGHAM

Dr. WILLARD PARKER, 195 West Twelfth street.

Conclusion.

1st. Catheterism of the air passages dates its history from the time of Hippocrates.

2d. The best evidences of the passage of an instrument into the air passages, are the rational signs.

3d. The facility of the operation depends upon the kind of instrument used ; the tube having a large curve being best, and the sponge probang least adapted to enter the trachea.

4th. That there is no reliable evidence, in the opinion of your committee, that the *sponge probang* has been passed through and beyond the vocal chords.

5th. That there is no positive evidence that an instrument can be passed at will into the right or left bronchial divisions.

6th. That in the great majority of instances where injections are supposed to have been thrown into the lungs, through a tube, they have passed directly into the stomach.

7th. That as regards the utility of injections of nitrate of silver into the lungs, the facts thus far developed, in the experiments of your committee, lead them to regard the operation as one fraught with danger, as well as difficulty.

In submitting the above report, the committee beg leave to tender their thanks to Prof. Green, and to Isaac E. Taylor, Visiting Physician of Bellevue Hospital, who kindly aided in furnishing subjects, and in making the experiments which are appended, and which form the basis of this report.

WILLARD PARKER, M.D., *Chairman.*

JOHN O. STONE, M.D.,

ISAAC WOOD, M.D.

At its close it was on motion voted that the report be accepted.

Discussion arose as to its proper disposal, when Dr. A. K. Gardner asked if the report was signed by the *whole* committee.

Dr. W. Parker said it was not yet, that Dr. Barker had declined to do so, and that he had beside his own signature that of Dr. Stone and Dr. Isaac Wood. Dr. Stevens was still absent from the city, but he had no doubt he would sign it. Dr. Metcalfe and Dr. Anderson he had expected to meet at the Academy, and obtain their signatures, but they were not there, and he had not their signatures.

Dr. Barker said he had only heard the report of the committee the evening previous, at a meeting called for that purpose, that he was astounded at its statements and principles, and that he had therefore refused to sign it. Had time been allowed to him, he would have prepared a minority report, to present at this meeting. That, however, was not possible; but he had, for his convenient reference, written out some of his reasons for withholding his signature, and would, with the permission of the Academy, proceed to read them.

In medical science * there are opinions and doctrines which have been handed down from generation to generation, defended by most illustrious names, accepted by the profession generally as demonstrated facts, without ever being called in question. If we search for proofs on which these doctrines rest, we find them neither in the annals of science, nor established by our own research. Yet to call in question such opinions or doctrines, is to fearfully jeopardize one's professional reputation and personal position.

In a paper read before this Academy six months ago, Dr. Green claimed to have carried topical medication directly into the trachea and bronchial tubes, by means of the sponge probang, or a laryn-

* The remarks by Dr. Barker, are copied from the written notes used by him at the meeting.—Ed.

geal tube. This it must be conceded was a most startling announcement. It has been received by the profession with great distrust. If true, Dr. Green has made a great discovery, one of the greatest made in practical medicine in the present century—one which will reflect not only great honor upon him, but upon the Academy of Medicine, before which his paper was first read, and which will add to the laurels of American medicine. For although Sir C. Bell, Mr. Vance, Mr. Cusack, MM. Bretonneau, Trousseau, and Belloc, each have applied medication to the various parts of the throat, neither of them have professed to carry it through the larynx into the trachea and bronchial tubes. If Dr. Green's claim be untrue and unfounded, he has been guilty of charlatanism to such a degree as ought henceforth to exclude him from all position among honorable men in the profession. It was then incumbent on the Academy to have this subject thoroughly investigated before endorsing the claim of Dr. Green. A committee was appointed for this purpose. The chairman of this committee is a gentleman who commands the fullest confidence of the profession, as a man of great discrimination, practical sagacity, and honest purpose. I, for one, and I believe most others, believed that this report would definitely settle the points in controversy. The professional reputation of Dr. Green, of the committee who sign the report, of the Academy who act upon it, are all involved in the decision to which we may arrive. Six months have passed since this committee was appointed. The report which has just been made, was first read to the committee *last* evening. As one of that committee, I could not sign that report, and I feel bound to state to the Academy, the reasons why I ~~can~~ not sign it. This is my only resource, as the late hour at which the committee adjourned, left me no time to prepare a minority report. With all due respect to the gentlemen who compose that committee, I shall examine their report with reference to its scientific value.

While I fully concur with it in the statement of facts, as to the experiments witnessed by the committee, which were most faithfully and laboriously recorded by Dr. Stone, the secretary of the committee, I am compelled to dissent from many of the deductions of the committee. I shall show that these experiments have very little value, as determining the practicability and feasibility of the operations now under discussion. I shall show that the reasoning in the report is illogical and fallacious, that the conclusions are "lame and most impotent." But before examining these points, I must allude to another feature in the report. In listening to the report, I think

every one must have been struck with its remarkable barrenness and deficiencies in regard to the *literature* of the subject. It is usual in such reports to give a summary of what has been done before, in order thus to better determine what is really new and progressive in the claims of innovators. This report alludes to the fact, that Hippocrates proposed to use the laryngeal tube, and that it had also been advised by Mr. Ryland. Hippocrates gives the following advice :—"Fistulæ in fauces ad maxillas intrudendæ, quo spiritus in pulmonem trahatur." "Canulas should be carried into the throat, along the jaws, so that the air can be drawn into the lungs." This practice seems to have been but little followed, and it was altogether abandoned after Asclepiades proposed bronchotomy. It was almost lost sight of, when Desault revived it. It was in some cases really introduced, and left a longer or shorter time in the *trachea* and *larynx*. Dr. Finaz of Seysell, was the first (1813) to propose the use of this means, in a case of œdematous laryngitis, but the proposition was not accepted by the physician in attendance. Dr. Ducasse (1817), in a similar case, urged the surgeon to take a gum elastic sound, in order to introduce it into the glottis, if the respiration should become impossible, but it was not employed, and tracheotomy not being performed, the patient died. But we have, recorded in the annals of science since that period, many cases where the tube has passed into the trachea as a remedial measure, in cases of impending suffocation. Prof. Lallemaud resorted to this method in two cases, one of which is reported by Dr. Sestier, the other by Dr. Justin Benoit. The latter also operated in this way in one case of his own. Desault reports three cases, Dr. Giraud two, Bichat one. Another case is reported as occurring in the hospital of Lyons, in which a soldier, who had attempted to kill himself, was *nourished and breathed fifteen days*, by means of two sounds, one introduced into the œsophagus, and the other into the larynx.

Mr. Ryland, who is alluded to by the committee, thus speaks of the introduction of the sound into the trachea : "The idea of the aperture of the glottis being closed by the abasement of the epiglottis upon it, has long since been exploded, and it is now well known that a tube, passed in the manner just indicated, will, if directed by a scientific hand, readily find its way into the trachea."

It will thus be seen from the record, that although the experiments of your committee have been very amusing and very interesting, yet their testimony was not needed to establish the practicability of carrying a tube through the larynx into the trachea. The profes-

sion had already abundant and convincing evidence of this fact. But while the report admits the practicability of passing the tube, the committee assert that they have no "reliable evidence" that the sponge probang has been passed through the larynx into the trachea. To me this seems a most extraordinary assertion. I propose to examine the grounds on which they make this assertion, first philosophically, and next historically. Are there any anatomical or physiological difficulties in the way of passing the sponge probang? The anatomical difficulty must be either in effecting an entrance into the opening of the canal, or from want of correspondence between the size of the object to be passed, and the diameter of the canal through which it is to pass. The numerous precautions which nature has taken for preventing the entrance of foreign bodies into the air passages, are so many obstacles to the introduction of the sound or probang into the same canals. The first obstacle that the instrument meets with, is the epiglottis, which in a state of repose is elevated. The second obstacle is, the plane of the superior orifice of the larynx, which is not horizontal, but oblique from above, below, and from before backwards. The probang can then easily glide in the same direction, and pass over into the œsophagus, unless by elevating the external extremity; the other be brought perpendicular to the plane of the orifice; a third obstacle is formed by the normal narrowness of this orifice.

The precise length and distensibility of the aperture of the glottis, become important points in reference to the settlement of the question under consideration. The results of Muller's measurements, as given by Dr. Watson, are as follows:—

	<i>Male Larynx.</i>		<i>Female Larynx.</i>	
	<i>Millimetres.</i>	<i>Inch.</i>	<i>Millime.</i>	<i>Inch.</i>
Mean length of chords in state of repose,	18 1-4	0-783	12 2-3	0-486
Mean length in state of greatest tension,	23 1-6	0-920	15 2-3	0-667

And those of Dr. Watson, approximate these very closely:—

	<i>Male Larynx.</i>		<i>Female do.</i>	
	<i>Inch.</i>	<i>Inch.</i>	<i>Inch.</i>	<i>Inch.</i>
Mean length of aperture of glottis in state of repose,	0-800		0-605	
Ditto, in state of greatest tension,	1-100		0-757	

The mean results then are:—

	<i>Male Larynx.</i>		<i>Female Larynx.</i>	
	<i>Inch.</i>	<i>Inch.</i>	<i>Inch.</i>	<i>Inch.</i>
Length of aperture in state of repose,	0-765		0-555	
Ditto, in state of tension,	1-013		0-696	

Hence as Dr. Watson remarks:—"When it is remembered, then, that the aperture of the glottis measures, upon an average of very

many cases, fully seven-tenths of an inch in the male, and fully half an inch in the female, while the organ is at rest, and that it may be stretched in the one case fully two-tenths, and in the other nearly three-tenths of an inch more : it will surely be admitted by any unprejudiced person, that a compressible sponge of one-half of an inch in diameter, may be passed through the opening."

Much larger bodies than the sponge probang, which Dr. Green uses, have passed through the aperture of the glottis. I could enumerate and refer to a great number of instances of this kind. In one case, three artificial teeth in one block, with two wooden pivots, making a mass $\frac{3}{4}$ ths of an inch in breadth, and $\frac{7}{8}$ ths in length; in another a tin whistle, 1 inch in length; in another a "puff dart," which is formed of a nail, wrapped round at one end with worsted, resembling very much in shape the probang; and in another instance still, a sponge $1\frac{1}{4}$ inches long, $1\frac{1}{4}$ wide, and $\frac{1}{8}$ of an inch thick. Now all of these are very much larger than the sponge probangs, which Dr. Green uses. There is, therefore, no physical impossibility preventing the passage of the sponge probang. On the cadaver this is done with perfect facility and ease. Prof. Watson of Glasgow, says :—"Every one can make trial for himself, how easy it is to introduce such instruments into the trachea on the dead subject. Over and over again have I performed this experiment, and I venture to say, that in all my repeated observations of this kind, I never experienced the very slightest difficulty."

Dr. Conant of this city, has also repeatedly demonstrated before divers medical men, the feasibility of this experiment, and I take it upon me to say, that he will with pleasure satisfy any honest enquirer after truth of this fact.

The anatomical difficulties then are not insuperable. It is the physiological difficulties which most embarrass the operator. Those arising from the *sensibility* and irritability of the parts. They are first to be trained, and thus the sensibility and irritability are overcome. Therefore, Dr. Green, in his work on "Diseases of the Air Passages," says :—"In cases in which it becomes necessary to cauterize the interior of the larynx, the aperture of the glottis should not be passed at once. The part should be *educated*, by applying the solution daily for several days, to the faucial and pharyngeal region, to the epiglottis, and about the opening of the glottis. Proceeding in this manner, that exquisite sensibility which belongs to the lips of the glottis, is in a good degree overcome, and the instrument may then be passed into the larynx, without producing half the amount

of that irritation, which its introduction below the epiglottis would have awakened at first." Of a similar tenor are the remarks of Dr. Watson, in his recent work on topical medication of the larynx:—"The slightest touch of the probang," he says, "may well be supposed to cause complete closure of the glottis, and this does seem an almost insuperable obstacle at first sight to the operator. But he must begin his manipulations, by educating the upper part of the larynx, and the fauces themselves to bear the presence of the instrument before he proceeds further, and when this has been accomplished, he must not think of forcing through the closed glottis. He must rather surprise it during an act of inspiration, when its muscles are relaxed, and its aperture open, for then he will find the introduction of the sponge both safe and easy."

Now, sir, having shown that the passing of the sponge probang is neither anatomically or physiologically impossible, I proceed to give the historical evidence, that it has been passed probably many hundred times.

The report of the committee ignores all evidence, as furnished by the statements of others. They base their report and their conclusions entirely upon the results of the experiments which they have witnessed, to which they have applied certain differential tests. The success or failure of these experiments, have been made to depend upon these tests. I shall presently examine the *value* of these experiments and tests. But in discussing the practicability and feasibility of these operations, I see no reason why we should be excluded from using the testimony of other men, equally distinguished and equally competent, as those who have signed that report. Well, then, Drs. Cotton of the Brompton hospital for consumption, Prof. Bennett of the Edinburgh University, Dr. Watson of Glasgow, and many others of distinction in Great Britain, aver in their publications, that they do pass the sponge probang through the larynx into the trachea. In this country, there are a host of physicians who claim to have done the same thing. It will suffice for me to quote one only. In the *Gazette Hebdomadaire* of Paris, under date of Jan. 27, 1854, appears a communication, a copy of which was sent by its author to the *Boston Medical and Surgical Journal*, from which I extract the following sentence:—"The possibility of introducing the sponge into the larynx has been doubted in France. I have, however, thrice proved its *feasibility* in the clearest manner." This communication is signed John G. Adams, &c., &c., New York.

But the committee have preferred to rely upon their own experi-

ments and tests, rather than to take the testimony of any man, however eminent.

Now let us see how much value these experiments have. The committee have tabulated a certain number of differential symptoms, to distinguish the passage of an instrument into the trachea and œsophagus. The report says :

"The symptoms which distinguish the passages of an instrument into the trachea and œsophagus, may be thus contrasted :

TRACHEA.

1st. Suffusion of the face, rapidly increasing to turgescence and lividity.

2nd. Great anxiety and alarm, not easily pacified.

3rd. Eyes wild, staring and overflowing with tears.

4th. Cough violent and spasmodic.

5th. Respiration greatly disturbed ; inspiration loud, and hoarse and stridulous, expiration attended with violent cough, like that of laryngeal phthisis, ejection of bronchial mucus through the tube, and finally free breathing through the tube.

6th. Voice extinguished ; a hoarse whisper, interpreted with difficulty.

7th. Retching slight.

ŒSOPHAGUS.

1st. Suffusion of the face slight, rapidly subsiding, with cessation of retching and cough.

2nd. Little anxiety, easily pacified.

3rd. Eyes natural, slight suffusion from tears.

4th. Little or no cough.

5th. Respiration little if at all disturbed.

6th. Voice distinct, often quite natural.

7th. Retching and vomiting a common symptom.

"We would, therefore, establish it as a rule, to which ordinarily there are no exceptions, that the rational signs, above tabulated, will differentially distinguish the course, which the instrument takes, whether into the laryngeal or œsophagus passages."

By these tests they have avowedly decided whether an experiment is successful or fails. Now, sir, I am prepared to show that these differential symptoms are entirely fallacious, that they have no value in determining the question. I do not intend to show by reasoning, that the symptoms, when applied to the use of the tube and probang, are fallacious, but I intend to show this by facts. This will probably be more satisfactory to the Academy, although I think it can be equally proved by reasoning. I shall take the symptoms recorded by competent observers, where the reporters had no object to gain except to relate facts.

Desault introduced an elastic sound into the œsophagus of a patient, who had a transverse wound of the neck, in order to pass liquid food into the stomach. A sudden cough took place at the moment of introduction. The patient made several efforts to vomit ; he was left

alone for a few moments, when he became calm, which continued for an hour. At the end of this time, an attempt was made to inject a small quantity of soup through the sound. Immediately the cough returned more violent than ever, even convulsive.

The introduction of the fluid was arrested for two hours. The patient remained tranquil during this time, but the moment a trial was made to introduce a few drops, the cough and agitation returned. Desault, suspecting that the tube was in the larynx, brought the flame of a candle near to the extremity, so that the air which escaped caused it to flicker. The sound was withdrawn and placed in the stomach, and then a glass of soup was carried into the stomach without a sign of pain. Now, the tube used was an œsophageal one, as large as one of Dr. Green's probangs.

Now, this one case alone is sufficient to overthrow the theory of the committee, as to the differential symptoms between the presence of an instrument in the trachea, and in the œsophagus. The committee deduce their symptoms from ten cases, in which the tube was successfully, as they claim, passed into the trachea. Now, this afternoon, I have looked over ten cases reported long before this discussion, and if I had had time to copy them off, they would have shown conclusively, that the symptoms which are enumerated in the report, cannot be relied upon as proof of the presence of the instrument, either in the trachea or in the œsophagus. It needs no argument to prove, that if the tests of an experiment are fallacious, the results are wholly unreliable.

One other point I must briefly allude to. In testing the practicability and feasibility of every operation, it is incumbent upon those who would fairly and honorably test these operations, that they should be governed by the same rules which govern those who claim to have performed the operation. Now, in three out of five experimental meetings of the committee, this was notoriously and obviously not the case. Furthermore, if there was only partial success at the two other meetings, this want of success can be readily explained on *physiological* grounds. The difficulties were not *anatomical*.

The committee also report on the form of instrument best adapted to entering the larynx. I confess this struck me as somewhat ludicrous.

But if, after succeeding in ten cases, the committee have been able to suggest an improvement on Dr. Green's method, I doubt not he will be equally gratified with the rest of the profession.

I come now to that part which relates to the utility of topical

medication of the larynx, by means of the sponge probang and injections. I heard this part of the report last night with unfeigned astonishment. I could not forbear asking the chairman, if he seriously intended to introduce the case of death at Bellevue Hospital, as a part of the report on the utility of the topical medication, after the manner proposed by Dr. Green. The committee have now had six months for getting the facts, and determining how far practical medicine has been advanced by this method of treatment. They will unanimously concur in my statement, that Dr. Green has offered them every facility for this purpose. He has invited them in the fullest manner to visit his office, any and every day, from nine to twelve, where they would have the opportunity of getting the previous history, by interrogating the patients, of making a physical examination, and of watching the progress of the cases and result of the treatment, and especially of estimating how much was due to the topical medication, and how much to other medication and hygienic influences. This was due to the Academy and the Profession. As they have not done this in a single instance, their opinion could not be regarded as anything more than a theory without knowledge. But the report has not committed those who signed it, even so far as this. It has, however, committed them in an infinitely worse way. At Bellevue Hospital, a broken down, feeble patient, in an advanced stage of phthisis, is selected to test the practicability of passing the tube into the larynx. It was successful. An injection was thrown through the tube into the bronchi, not as a therapeutic resource, but as an experiment, Dr. Green neither advising or suggesting it. The patient died in 26 hours. The committee report this case, with the result of the autopsy, which the committee did not witness, and this is all they have to say of the *utility* of topical medication, as proposed in the paper referred to them. Was there ever a more monstrous dereliction of duty on the part of a scientific committee, appointed to report before a professedly scientific body? I will not now characterize such a course in terms such as I think it deserves. It is well known that Mr. Roux, the distinguished Surgeon of Hotel Dieu, was strongly opposed to the operation of lithotrity, as proposed by Civiale, Amussat, &c. Suppose he had operated or attempted to operate, and the patient had died from the results of the operation. Suppose he had been appointed to report to the Imperial Academy on this subject, and had pretended to report on its practicability and *utility*. Suppose, without examining the cases, or giving the history or results of those

of Leroy d' Etiolle, Civiale, or Amussat, in speaking of the utility of the operation, he had entirely confined himself to the detail of his case, which died. I ask what would have been the views of the profession throughout the whole civilized world, in regard to such a course? And yet, in some particulars, the supposed illustration is made more favorable to the committee, than the facts warrant.

But, I will add nothing farther on this point. I will only present some facts, which I have gathered and witnessed, in regard to the utility of the plan proposed in the paper referred to the committee.

Dr. Barker then referred to some cases which he had watched with great interest, whose previous history was well known to other medical men. He read letters from three, in answer to notes of enquiry from him, describing their present condition. He also read a letter from Dr. Farnsworth, of Norwich, Conn., in answer to one from himself, in relation to the effect of the treatment by injections of nitrate of silver, in a patient of his laboring under advanced phthisis with complete aphonia. Dr. Farnsworth described her as "much improved by the applications of the nitrate to the bronchial tubes. She is able to articulate aloud, which she had not been able to do at all for many months before she visited Dr. Green. The expectoration is much better in character, and very much more easily made. She is also stronger, can walk about, and rides out every day."

He also read a letter from Dr. Bowditch, of Boston, who had made use of the injections in a few cases, and believed that they diminished in a marked degree the cough and expectoration.

Dr. Stone rose and said that he spoke only as an individual,—that he entered upon the committee determined only for justice, with prejudices in favor of the paper, and a desire that Dr. Green's statements might be proved correct. He had been compelled to come to the conclusions of the Report which he signed. As to Dr. Barker's statements, he freely acknowledged the superior accuracy and minuteness of the history of catheterism of the trachea. But with regard to the cases which he (Barker) cited, no reliance could be placed on them. It was well known that consumptives, under the hope inspired by a new mode of treatment, varied very much in their weight, increasing to the extent of 40 pounds, when this is taken in connection with the opening Summer, and favorable weather, with out-door exercise. And yet all is of no avail. They rapidly sink and die. The patient's opinion then is of no value. It must be *known* where the

tube is. That is the point. Dr. Barker had introduced two cases. Dr. Stone doubts the accuracy of Desault's report. He believes that the different positions of the two tubes described by him (one in the trachea, and one in the œsophagus), are incorrect. His (Stone's) belief was, that it being a case of cut-throat, there was a wound made not only in the trachea, but in the œsophagus, and that there being thus an opening from one to the other, one tube had passed from the œsophagus through this wound into the trachea, and not through the larynx. Such a case he had seen in London, under the care of Mr. Stanley, when the tube passed into the œsophagus would sometimes escape into the trachea, and sometimes continue to the stomach.

We must have some signs of the position of the tube. There is *always* suffocation, and a current of air through the tube, not a simple jet. Dr. Stone knows the danger of fallacy of men who have preconceived ideas, and that they are not reliable.

He doubts the practicability of passing a catheter through the larynx, even on the dead body, if it has only Green's curve; at any rate, it cannot generally be done, though it may more frequently with Taylor's curve. On the dead body, however, the parts have not "taken the alarm" as they do in the living body, as soon as the tongue is depressed by the spatula, or by the finger. When the tongue is thus depressed, the parts take the alarm, and "the arytenoid cartilages, I believe they are called," can be seen to approximate, and the passage is closed.

Dr. Griscom wished to know if Dr. Barker's paper was before the Academy as a Report.

The chairman, Dr. F. Campbell Stewart, said they were Dr. Barker's *notes*, and not a *Report*, simply a statement of Dr. Barker's reasons for not signing the Report that had been read, and that they could not be brought before the Academy formally.

Dr. Isaac Wood, wished to know if all the members of the committee were present at the first reading of the Report, at Dr. Stone's office?

Dr. Stone said Dr. Stevens was out of town, as was also Dr. Barker, the rest were present.

Dr. Wood continued.—At that time the Report was carefully and deliberately scanned by those present, and was assented to. He was then surprised at Dr. Barker's course, in making a separate Report. One remark Dr. Wood desired to make. He was put upon the committee without his knowledge or consent. Was disinterested in

respect of both sides, as he believed entirely so. When he heard Dr. Green's paper read, he was much gratified, and so expressed himself. There was, however, no reliable evidence furnished by the experiments before the committee. Allusions to base motives were unworthy of a member of the New York Academy of Medicine.

Dr. Griscom, thinks the reply should be before the Academy, as it contains the facts of the minority, and is of importance to all. He, therefore, *moved* that Dr. Barker be requested to prepare a Minority Report. His reasons were, that the committee's Report was extensive and detailed, and he would remark that he was in Dr. Wood's position, with regard to the paper when it was read, and stated that if sustained, it was an era in medicine. He was anxious for the Report, and his confidence in the committee was not disappointed. Dr. Barker's paper was at first fair, but afterward unreliable evidence was admitted. He referred to that of the patients themselves. If a patient says anything, he only echoes the opinion of his physician. Let the Academy have both Reports before them. He believes that the Minority Report will but confirm that of the Majority.

Dr. Barker stated that he intended to prepare a Report, *based on* his notes, which he had used now for his own convenience, but considered unworthy of being called a Report. It would, therefore, be unnecessary to pass Dr. Griscom's motion.

Dr. John Watson said he had not been accustomed to appear at the Academy meetings, but to-night had come in, because he understood the Report of this committee was to be made. He thinks there is some truth in both Reports. The committee had made insufficient examination into the effects of nitrate of silver. So too with regard to the use of the sponge probang. He was sure, he *knew*, that he sometimes had passed it into the trachea, between the vocal chords. It was difficult for him to do it, still he was satisfied that sometimes he had succeeded. As to Dessault's case, he believed his Report, and had himself had one like it. It was a patient with stricture of the œsophagus, which it was necessary to divide, and to sustain life he used a stomach tube, through which to pass food into the stomach. The tube very frequently slipped into the larynx. The precise number of times he could not say, but he should think in one-fourth of the instances. He could tell certainly by the feeling, whether it was in the œsophagus or trachea. He was satisfied that it went there, and the patient had great difficulty of breathing. He thought the matter should be referred back to the committee for reinvestigation, and a more thorough examination of the subject.

Dr. W. Parker objected to a return of the subject to the committee. His impressions of the Paper were favorable to it, as were also his feelings. The first step which he took was to make some observations for himself, in connection with Drs. Stone and Taylor. Dr. Taylor said he had employed the tube, and it was easy to pass it into the trachea. Dr. Taylor had full conviction that it was there. A young woman, Mary Norton, was found who consented to the trial upon herself. She could tell where the tube was. There were suffocation, suffusion of the face, a current through the tube, after a little time quiet and easy breathing, a husky thick and difficult articulation. Thinks the rational signs of the tube in the trachea, are as clear as the noon-day sun. The committee have tried it carefully, and have told all they knew. Prefers a new committee should be raised. For himself is entirely satisfied. The committee witnessed 120 operations, and he was astonished at their failure. Before beginning such an investigation, there must be rational signs established, as in auscultation. Air passing through the tube is not evidence of its being in the trachea. Air may be eructated from the stomach, and pass through the tube, and in the effort of gagging, air is swallowed, which may again come up through the tube. It is true, that the tube, when in the trachea, allows the patient to breathe through and around it. He can vouch for the honesty of the whole committee, and that of his friend Prof. Barker, and fully appreciates the difficulties of Prof. Barker's position.

Dr. Stone would be excused from serving longer. Has done his duty. If Barker or others disavow the Report, he will have nothing more to do with it.

Dr. Wood also declined serving any longer.

Dr. Watson, by permission, then withdrew his motion of recommendation.

Dr. A. K. Gardner wished to know if any attention was given to the alvine evacuations, as affording indications of the presence of nitrate of silver in the alimentary canal. Such evidence would be afforded, if, in the numerous patients injected by Dr. Green, it was thrown into the stomach or œsophagus, as the committee believed. Did the committee enquire into this, which would furnish a reliable test.

Dr. W. Parker said that no attention was paid to it. The dejections were not examined.

Dr. Sayre wants a reliable Report presented to the Academy. Many of us had once fallen into error, in denying an anatomical

principles, the possibility of entering the larynx, and it was important that a repetition of it should be avoided. He should be inclined to renew the motion for recommitment. Air escaping from the stomach, or when swallowed, could hardly be confounded with air from the lungs. The former was only a little puff, the latter a more or less constant stream. The committee should reexamine the matter more carefully.

It was then moved, that the Society meet this evening fortnight to hear the Minority Report, and for the further discussion of the matter. After some debate the motion was adopted, and the Society adjourned.

ADJOURNED MEETING.

Wednesday, June 20th, 1855 : The adjourned meeting of the Academy was held this evening according to appointment. The venerable president of the Society, Dr. Francis, occupied the chair. The members were apparently gratified to see his well known face among them. The attendance of members and other medical men was very large, perhaps the largest the Academy has had. Among the distinguished strangers, we noticed the Hon. Mr. Venables of North Carolina, formerly a physician, though for some time a practitioner of law, and member of Congress.

When order had been obtained, Dr. Barker said, that, delighted as he was to see their president in the chair, he felt it might be tasking him too much to ask him to guide an exciting discussion, such as was anticipated. In order to relieve him, therefore, and also to permit him to take part in the discussion, he would propose that the Academy go at once into committee of the whole, with Dr. F. Campbell Stewart, one of the vice-presidents, in the chair.

The chairman decided, that the more proper course would be, to hear the Report first, and when it was thus before the Academy, to go into committee of the whole upon it.

On motion of Dr. Sayre, it was voted to take the Majority Report from the table, and that it should be again read, as some of the members were not present at the last meeting.

The secretary, Dr. Foster, stated that that Report was not in his possession. It had been given to Dr. Wood, and had not yet been brought in.

Dr. Barker asked leave to make a personal explanation. No objection being made, he said :—

Mr. President, At the last meeting of the Academy, the chairman

of the committee, while vouching for the honesty of the committee, and of myself, individually, added, that he "appreciated my position," the implication being that I had opposed the Report of the majority, because I was a friend and colleague of Dr. Green. I then had no opportunity to reply, and under ordinary circumstances, the remark would not be deemed worthy of notice. I certainly am the friend and colleague of Dr. Green, and I trust the time will never come, when I shall fail to defend a friend, or fear to meet an enemy, if the occasion demands it. But this is not one of those occasions; and in this discussion, I have spoken as the impersonal representative of certain scientific opinions. I have not forgotten that this is a scientific body, a collection of gentlemen who can and will weigh facts and arguments, who will not allow their judgments to be influenced by my feelings, or their feelings, if they have any of a personal kind. Honestly believing as I do, that the Report was wrong, and that future investigators will prove it to be so, I should have been untrue to my own reputation, and to the Academy, and unfaithful to science, if I had given even a passive assent to it. I will not stop to enquire why it was necessary for the gentleman to appeal from the scientific argument to personal position. A retort is always easy, but a retort is no argument. I shall hold myself above all personal feeling, and personal retaliation. I trust there may be here professional discussion, and even warm discussion, without the interruption of personal relations. But if adherence to scientific opinions, involves the rupture of personal relation, then I am ready for that issue.

It was then announced that the majority Report had arrived.

The minutes of the committee were again read by Dr. Stone, and are the same that were read at the last meeting. (See page 38.)

When the minutes were concluded, Dr. Willard Parker asked for the reading of the Resolution under which the committee was appointed.

This was read by the secretary, and Dr. Parker then proceeded to read the Report of the majority, and which is the same as that given in the proceedings of the last meeting. (See page 51.)

At its conclusion, Dr. Parker stated that since the last meeting of the Academy, the Report had been signed by Dr. Metcalfe, and thus had upon it the names of four of the committee (Parker, Wood, Stone, and Metcalfe). He had received a note from Dr. Anderson signing the first part, but not the second, "that is, the *cui bono*."

Dr. Stevens was present, and would answer for himself. The note of Dr. Anderson, kindly furnished to us by the writer, is as follows :

NEW YORK, June 14th, 1855.

WILLARD PARKER, M.D. :

Dear Sir, I still entertain the opinion I expressed at the last sitting of the committee, on the Paper of Dr. Horace Green ; and which I also repeated to you on the following morning ; that the second division of the matter referred to the committee, had not received that investigation which would enable them intelligibly to report upon it. You will please receive this as my signature to the first division of the Report

With very great respect, yours,

JAMES ANDERSON.

Dr. A. H. Stevens said that he had prepared a report, and with permission would read it.

It having been urged that the minority Report of Dr. Barker should first be read, Dr. McFarland, of Williamsburgh, stated that Dr. Stevens' was a part of the *majority* report, and therefore ought to be first read.

The president requested Dr. Stevens to proceed.

DR. STEVENS' REPORT.

The undersigned, one of the committee appointed to report on the subject of medicated injection into the trachea, as performed by Prof. Horace Green, not having had the opportunity to witness all of the facts in relation to this subject, that have come under the notice of his colleagues, begs to submit this, his separate report. He was present at two meetings only, at Prof. Green's office, and witnessed, in addition to some very skilful applications of caustic solutions to sinous passages in the fauces, repeated introductions of the sponge probang, of the hollow tube, and of nitrate of silver injections through it.

As regards the question of the possibility of the introduction of the probang into the trachea, he did not see enough to enable him to consider the practicability of such introduction as a proved fact. But of the practicability of passing a catheter into the trachea, he was confirmed in his previous belief, that it admits of no question whatsoever. It was moreover proved that the injection of a solution of nitrate of silver in quantities equal to two fluid drachms is quite practicable with ordinary skill. In two experiments performed in his presence by Prof. Green, it was not followed by alarming symp-

toms, or, so far as he knows, dangerous consequences ; a result quite different from what *à priori* reasoning had prepared him to anticipate. If further experience should prove its entire safety, such experience, on a very extended scale, and by numerous observers, can alone determine its therapeutic value. But those who may incline to make such experiments, will doubtless remember that a solution of two drachms of nitrate of silver, of the strength stated to have been employed, ℥j. to ℥j. of water, would give ℥ss. of the solid caustic ; enough to make an eschar through the cutis of one inch in diameter. Analogy would lead to the conclusion that so large a quantity, expending its whole force upon the tracheal, and such parts of the bronchial membrane as it came in contact with, would be likely to induce inflammation of a grave character. The quantity of caustic actually brought into permanent contact with a stricture of the urethra is a very small fraction, probably not $\frac{1}{16}$ part of a grain. A stick of caustic weighing only four or five grains, may be used daily for months, with scarcely a perceptible diminution of its bulk, even in hospital practice.

In regard to the question of the practicability of directing the solution to a particular part of the bronchial tubes, or into any cavity connected with them, at the pleasure of the operator, the reporter has seen nothing to lead him to an affirmative answer.

All which is respectfully submitted.

ALEX. H. STEVENS,

of the committee, &c.

The president then called for the reading of Dr. Barker's minority Report.

MINORITY REPORT.

At a meeting of the New York Academy of Medicine, Dec. 6th, 1854, the following Resolution, furnished to me by the Recording Secretary, was passed, viz :

Resolved, That a committee of seven be appointed by the chair to enquire into and investigate the treatment proposed by Dr. Green, in his Paper read this evening.

In the Paper referred to the committee, Dr. Green first alludes to the skepticism of Prof. Erichsen of London, and of Prof. Trousseau of Paris, as to the possibility of "passing the sponge probang through

the larynx into the trachea, even of the cadaver, and much less into that of the living subject." Dr. Green claims "that this method of medicating the larynx and trachea, is accomplished with much ease, and, ordinarily, with great certainty; and that, by this means, diseases of those organs, which would otherwise have proved mortal, have been repeatedly arrested." He goes still further in asserting that the sponge probang "has been passed at will into the right or left bronchial divisions." To prove that it could be passed through the vocal chords, Dr. Green attached a sponge of the same size with those which are used with the ordinary throat probang, to one of Hutchings' flexible tubes, and wetting the sponge with a strong solution of nitrate of silver, he passed it down to the vocal chords, through the rima-glottidis (as he supposed), several inches, into the trachea. The patient breathed through the tube for several moments, and extinguished a lighted lamp by blowing through the tube. In order more rigidly to test this experiment, in another patient, a large paste-board card, perforated in the centre, and of sufficient size to screen the nose and mouth completely, was then slipped over the tube, to which it fitted closely, and the patient directed to blow out the light, which was accomplished through the tube as promptly as in the first instance. In another patient, a small air-tight elastic bag was tied over the upper extremity of the tube, and on introducing the instrument six or eight inches into the trachea, this little bag was inflated and collapsed several times, by the act of inspiration and expiration, on the part of the patient. In another case, a small ball of floss was suspended by a thread before the mouth of a tube, and this was alternately drawn into and expelled from the opening, by the act of respiration. Dr. Green believed that these experiments conclusively proved "that the operation of passing the sponge probang into the larynx and trachea, is positively being accomplished."

From these results, he was led to enquire, "what shall now hinder the introduction of medicinal agents through this tube into the lungs, or directly into the bronchi and their terminations? What will prevent the injecting, even of a vomica, *under favorable circumstances*, with appropriate remedies?"

Dr. Green at once endeavored to put in practice the inferential suggestions resulting from the experiments above alluded to. In the Paper referred to the committee, he professes to have "treated for a longer or shorter period thirty-two patients laboring under tubercular or bronchial diseases, by the direct introduction into the lungs of a strong solution of nitrate of silver, injected through the elastic tube."

He details with considerable minuteness three cases, "whose history and sanatory condition, on coming under my [his] treatment were known to other medical men." He claims that this treatment has been "invariably salutary," both in the cases of chronic bronchitis, and in those of tubercular diseases; or, to be more specific, he asserts that this treatment produces a marked decrease in the cough and expectoration, an abatement of most symptoms which arise from local inflammation or irritation in the pulmonary apparatus, and *consequently* a decided improvement in the general health of the patient. Many important points in regard to the treatment, he leaves "to be solved by future experience, and by repeated observations." Dr. Green adopts the following propositions of Prof. Bennett of Edinburgh, from his work on the "Pathology and Treatment of Tuberculosis :"—

1st. That not unfrequently diseases entirely seated in the larynx or pharynx are mistaken for pulmonary tuberculosis.

2d. That even when pulmonary tuberculosis exists, many of the urgent symptoms are not so much owing to disease in the lung as to pharyngeal and laryngeal complications.

3d. That a local treatment may not only remove or alleviate these complications, but that, in conjunction with general remedies, it tends in a marked manner to induce arrestment of the pulmonary diseases.

The conclusion of Dr. Green's Paper contains the following three distinct propositions :—

1st. That direct medication of the lungs, by means of catheterism of the air tubes, has not before been accomplished.

2d. That the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient.

3d. That the results of this method of treating disease, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

This condensed summary of the Paper referred to the committee seems necessary, in order clearly to define the duties of the committee. They are manifestly—

1st. To ascertain whether direct medication of the lungs, by means of catheterism of the air tubes, has been before accomplished.

2d. To ascertain whether the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient.

3d. To ascertain, as far as possible, the therapeutic results of this method of medication.

That the committee clearly understood their duties to be as above stated, is proved by the record of the secretary, Dr. Stone, from which the following paragraph is an extract: "It was concluded, after some general discussion of the subject, that the committee should endeavor: 1st, to settle the question of the passage of the tube into the trachea; and 2d, as far as possible, to ascertain the utility of the injections of the nitrate of silver into the lungs." The title of the Paper referred to the committee is, "On the employment of Injections into the Bronchial Tubes, and into Tubercular Cavities of the Lungs." The practicability of passing the sponge probang through the vocal chords, was not even suggested by any member of the committee as pertaining to their duties. But as a majority of the committee have declared, by appending their names to the report, "That there is no reliable evidence, in the opinion of your committee, that the sponge probang has been passed through and beyond the vocal chords," it is proper, before the Academy shall endorse such a statement, that they enquire whether the committee have investigated this subject, and what they mean by "reliable evidence."

Neither Dr. Green, nor any other advocate of the practicability of passing the sponge probang through the vocal chords, profess to do it without first overcoming the irritability and sensibility of the parts by repeated applications of the nitrate of silver to the faucial and pharyngeal region, to the epiglottis, and about the opening of the glottis. To investigate this point, then, it is necessary that the above conditions should be fulfilled. The record of the Secretary proves that this was not done in the patients experimented upon at the first and third meetings of the committee at Bellevue Hospital. At the second meeting of the committee at Bellevue Hospital, those experimented upon had received, some three, and some four applications of the nitrate of silver, but that the sensibility and irritability of the parts had not been overcome, was disgustingly evident to all present. The record says, "these patients were nervous and timid; the vomiting of the first one excited the rest, and upon the entrance of the tube into the mouth, they gagged and became unmanageable." The experiments, then, at Bellevue Hospital have no possible bearing on the question, and should be excluded. At Dr. Green's office, the sponge probang was avowedly passed into two patients, before the committee. Their investigation is, then, confined to two cases, and from these they deduce a proposition which they ask this Academy to endorse.

Let us next see what they mean by "reliable evidence." In regard to the first patient in whom the probang was passed, the record says, "very slight cough was occasioned, and only slight strangulation, consequently the operation cannot be regarded as satisfactory." In the second case, the record says, "consequently, judging from the symptoms, was not satisfactory." The symptoms were negative, "no cough, spasm, or suffocation, was produced." The committee say, "The best evidences of the passage of an instrument into the air passages, are the rational signs." They give in full what they deem the "rational signs," but these surely cannot apply to the sponge probang with an impervious handle. They will not claim that a patient with such an instrument passed through the vocal chords into the trachea, will have a "loud, hoarse, and stridulous inspiration,"—that the expiration will be "attended with violent cough, like that of laryngeal phthisis," that there will be "ejection of bronchial mucus through the tube, and finally *free breathing through the tube.*" Striking out the words "through the tube," the phenomena which the committee have described as "rational signs" of the passage of an instrument into the air tubes, almost exactly characterize a paroxysm of hooping-cough. Still more perfectly do they describe the effects of a first application of a strong solution of nitrate of silver to the faucial and pharyngeal surface in most patients, when the probang does not pass at all into the air passages. It necessarily follows that the "rational signs" of the committee are in no sense "reliable evidence" of the passage of a sponge probang through the vocal chords into the trachea. Contenting myself, therefore, with the positive assertion, that I have reliable evidence that the sponge probang has in many instances "been passed through and beyond the vocal chords," I deem it no part of my duty, as a member of *this* committee, to bring that evidence before the Academy. The committee were appointed "to enquire into and investigate the treatment proposed by Dr. Green in his Paper," read before the Academy Dec. 6th, 1854. That treatment is the injection of nitrate of silver into the bronchi, and, "under favorable circumstances," into tubercular cavities. I now proceed to what I conceive to be the legitimate duty of the committee.

1st. To ascertain whether *direct medication of the lungs*, by means of catheterism of the air tubes has been before accomplished. On this point little need be said, as I presume the Academy and the committee will unanimously concur in the statement, that in the

history of medicine, there is no evidence that this has ever before been accomplished.

2d. To ascertain whether "the operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient."

The operation consists of two parts :—1st. The introduction of an elastic tube through the vocal chords into the trachea. 2d. The injection, by means of a small syringe, of a solution of nitrate of silver, through the tube into the bronchi. The latter part of the operation can, of course, be accomplished with ease and facility. The first part then only requires examination, and this is not new to medical science.

One of the "conclusions" of the Report of the majority of the committee is, that "Catheterism of the air passages, dates its history from the time of Hippocrates." If this be true, it would hardly seem necessary, that in the year of grace 1855, a committee should enter upon a series of experiments, to ascertain its "practicability."

But, I am ignorant of the data upon which the committee base such a conclusion. Hippocrates (*De Morbis*, lib. iii. 10), gives the following advice :—"Fistulæ in fauces ad maxillas intrudendæ, quo spiritus in pulmonem trahatur" "Canulas should be carried into the throat, along the jaws, so that the air can be drawn into the lungs." But, M. Sestier (*Traité de L'Angine Laryngée Œdémateuse*) has shown, that it is very doubtful whether the ancients really did pass the sound into the trachea. He remarks, that *αἰσχος*, diminutive of *αἶσλος*, sound, means a small sound, and that under the denomination, of *φαρυγξ*, the ancients meant sometimes the *throat*, sometimes the *pharynx*, and sometimes even the *larynx*. Hippocrates then advises the introduction of small sounds, but whether into the *throat*, *pharynx*, or *larynx*, it is impossible for us to decide. At all events, the practice was altogether abandoned when Asclepiades proposed *bronchotomy*. It was almost lost sight of, when Desault, in 1801, revived it, since which time it has been really introduced, and left for a longer or shorter time in the *larynx* and *trachea*; and we have recorded in the annals of science, many cases where the tube has been passed into the trachea, as a remedial measure in cases of impending suffocation. Prof. Lallemaud resorted to this method in two cases, one of which is reported by Dr. Sestier, and the other by Dr. Justin Benoit. The latter operated in this way in one case of his own. Desault reports three cases, Geraud two, Bichat one. Another case is reported by Desault, as occurring in the Hospital of Lyons, in which a soldier,

who had attempted to kill himself, was *nourished*, and *breathed* fifteen days, by means of two sounds, one introduced into the œsophagus, and the other into the larynx. A sufficient number of cases have been enumerated to establish the fact, that this part of the operation can be performed by the dexterous surgeon, with ease and facility. Mr. Ryland, who is alluded to in the Report of the majority of the committee, thus speaks of the introduction of a tube into the trachea:—"The idea of the aperture of the glottis being closed by the abasement of the epiglottis upon it, has long since been exploded, and it is now well known, that a tube passed in the manner just indicated, will, if directed by a scientific hand, readily find its way into the trachea."

With such ease and facility does the tube pass into the trachea, that it often occurs as an accident, when the intention of the operator has been to pass it into the œsophagus, and this too with a tube much larger than those Dr. Green makes use of. Dr. Watson, at the last meeting of the Academy, mentioned one case of his own, where this happened in one-fourth of the operations, if I correctly understood him.

The experience of Dr. Watson is confirmed by many other surgeons. There are cases recorded where the tube has been introduced into the trachea, and produced so little disturbance, that the operators have believed it to be in the œsophagus, and injected liquids into the air passages, thus producing most unfortunate accidents, and even fatal results. It is sufficient for me to refer to a thesis by M. Prus, Paris, 1817, No. iii, p. 26, to the articles by MM. Thoré, and Baillarger, in the *Annales Medico-psychologique* t. v. et viii. So well is this known to surgeons, that Prof. Miller of Edinburgh, in his standard work on "Practice of Surgery," gives especial directions to prevent the occurrence of such a mistake. The following are his words:—"In most cases it is well to assure ourselves fully, that the tube is in the œsophagus, and not in the larynx, before fluids are passed downwards into the stomach. For this purpose a sheet of paper may be placed before the face, with the extremity of the tube projecting through it, while in front of the tube a lighted taper is put, which by the paper is effectually screened from the flatus of the nostrils in expiration. If, on expiration, the flame remains steady, no air impinging on it, we may proceed with the injections—the tube is certainly in the right place. If the flame be extinguished, or even made to bend considerably, it is equally plain that an error has been made, and that injection would almost certainly occasion fatal

asphyxia." The facts above mentioned, conclusively *prove that the absence of the "rational signs," as given by the committee, is no evidence that the tube is not in the trachea, and that when the committee have decided on these grounds, that an experiment was unsuccessful, their decision is wholly unreliable.* I shall recur to this point again, in examining the Record of the committee. Enough has been said to prove the practicability of the operation. I submit, however, in addition, the following letter, which I this morning received from Prof. Peaslee :—

HANOVER, N. H., June 16th, 1855.

Dear Doctor, As I perceive by the city papers that the subject of passing tubes and sponge probangs into the human trachea, is just now exciting a good deal of interest, I send a brief statement of a case in which the patient has himself introduced the tube into his own trachea, and injected the nitrate of silver through it.

The gentleman alluded to, is a *physician*, and has long been affected by follicular disease of the pharynx, with subsequent atrophy of the tonsils, and extension of the former disease into the larynx and trachea. He was formerly my pupil, and I place full confidence in his opinion, that he has passed both the sponge probang and the tube into his own trachea. He also is positive that the former had been passed many times by others before he accomplished it himself. The tube was first passed with the assistance of a medical pupil, and afterward by himself unaided, the pupil merely assisting in the subsequent injection.

On inquiring how he could be *certain* the sponge probang or the tube passed through the *larynx*, he replied that he had had the former, as well as the latter, too often slip down the œsophagus, instead of entering the larynx, not to know the difference by the sensation at once. No extreme symptoms, in the way of cough, or dyspœa, were produced by the introduction of the tube. The gentleman to whom I allude, is Dr. D. B. French, of Bath, N. H.

Yours truly, in haste,

E. R. PEASLEE.

Dr. B. F. Barker.

Let us now examine the experiments of the committee. As the great difficulty in passing the tube arises from the sensibility and irritability of the parts involved, Dr. Green never attempts the operation until this difficulty has been overcome by previous education of the parts. It is obvious that in investigating *his* plan of treatment, this prepared condition is an essential requisite for all *fair* and *reliable* experiments, just as much so as it is for the chemist, who proposes to analyze any given substance, to have his retort free from all extraneous matter. But this condition was not fulfilled in any of the experiments at Bellevue Hospital, and therefore they might with

justice be excluded, as having no bearing upon the subject. But as the committee have made use of them, we will see what these experiments prove.

Twenty-two patients were subjected to the experiment with the tube. For this occasion only I accept the decision of the committee, and set down as "failed, successful, and doubtful," as they determined. For convenience in referring to Dr. Stone's record, I have marked the patients as numbered by him.

<i>Failed.</i>	<i>Doubtful.</i>	<i>Successful.</i>
13th patient.	9th patient.	11th patient.
16th "	10th "	14th "
17th "	12th "	15th "
18th "	23d "	20th "
19th "		25th "
21st "		26th "
22d "		28th "
24th "		29th "
27th "		34th "

The experiments failed in nine patients, were successful in nine, and the results were doubtful in four.

I respectfully ask of the Academy to examine the causes of failure, as they appear in the record. Fifty per cent. of success where the results were decided. The success was more wonderful than the failure, success being achieved, under circumstances where Dr. Green would not attempt the operation in his own practice, the failure being due to causes which are not inherent to the operation, but which might have been overcome. The success proved the practicability of the operation. The failure proved nothing but the great sensibility and irritability of the parts, which condition was greatly increased from *emotional* causes.

It would seem hardly necessary to say that for the operation to be successful, it is requisite that the patient should be free from mental perturbation. The experiments at Dr. Green's office were undoubtedly less satisfactory, on this account, than they otherwise would have been. The presence of an unusual number of physicians, the discussion as to the possibility of the operation, and the tests of its success, all served to excite the patients and embarrass the operation. The only cases where failure was positive, are marked 32 and 33 in the record, and in these the failure was wholly due to emotional causes. A letter from one will subsequently be introduced. The 6th should be excluded, as immediately after the introduction of the tube, the patient, an epileptic, the well known "Blue man," had

a slight attack of epilepsy, and the tube was at once withdrawn. In the remaining ten cases, the decision of the committee was, that the results of the experiments were doubtful in four, viz : in the 3d, 5th, 7th, and 8th. In regard to the 8th no opinion was expressed by the committee ; I therefore set this down among the doubtful. The experiments failed in three, viz : the 4th, 32d, and 33d. In three, the 30th, 31st, and 34th, the experiments were successful. Here, as before, where the results were decided, the success is exactly 50 per cent. But were their decisions correct as regards those considered as doubtful, and in the 4th patient decided as a failure? Their decision was based on the absence of certain phenomena, which they denominate "rational signs." But these have already been shown to be *wholly unreliable*. Their absence proves nothing. The probabilities, mathematically speaking, are as 8 to 2, that these were all successful, and these probabilities are greatly increased by the phenomena observed as noted by Dr. Stone, to which record I refer for proof. We are therefore fully warranted in claiming success in eight out of ten patients in whom the experiments were tried at Dr. Green's office. It remains to enquire whether, in the two unsuccessful results, the failure was inherent to the operation. In one (the 32d), the patient, a highly intelligent man, had had the tube passed repeatedly both into the trachea and into the œsophagus. According to the committee, he was competent to decide, by his sensations, into which passage the tube is passed, and he avers that it has been many times passed into the trachea. In regard to the other failure, I will introduce the following correspondence :

NEW YORK, June 19th, 1855.

Dear Doctor, As your name appears in the record of Dr. Stone, secretary of the committee on "Injections into the Bronchial Tubes, &c.," as one in whom the experiment of passing the tube into the trachea, was made before the committee, may I beg of you to inform me by letter—

1st. Whether you believe the tube has been passed through the vocal chords into the trachea ?

2d. Also whether the injection has been made through the tube into the bronchi, and if so, what in your opinion were the effects of this method of treatment ?

3d. Whether, at the time referred to by Dr. Stone, in your opinion the tube was passed through the vocal chords into the trachea ?

I remain, very truly yours,

B. FORDYCE BARKER.

Dr. E. R. Pulling, Resident Physician
to the New York Lying-In Asylum.

NEW YORK, June 19th, 1855.

Dear Sir, I have before me your note of the present date, in which you make some inquiries in reference to the introduction of the tube into the air passages, in my own case.

While I wish to shun the unfortunate position of a *partisan* in the discussion of the question now before the committee, I yet see no valid objection to stating such particulars as have a bearing on the subject of your note.

Dr. Green attempted to pass the tube into the trachea on three occasions. The first attempt was unsuccessful. The second was successful—the tube, I think, undoubtedly passing through the vocal chords, and into the trachea. An injection was thrown in on this occasion for the purpose of relieving a bronchial irritation, from which I was suffering. The effects following this operation were—during the first six or eight hours, an increased expectoration, the cough remaining about the same; at the end of this period, both cough and expectoration began to diminish, and for several days subsequently I found much relief from the previous symptoms. The third attempt at passing the tube, made in the presence of the committee, was unsuccessful. A result which, so far as I am capable of estimating its causes, was due to spasm of the vocal organs, induced by fatigue, and increased by the circumstances under which the operation was performed.

Very respectfully yours,

E. R. PULLING.

To Dr. B. F. Barker, member of the
committee of the Academy of Medicine.

Enough has been said to establish the fact “that the operation may be performed by the dexterous surgeon with ease and facility.”

As to the safety of the operation, it is sufficient to say that it has been performed by Dr. Green in more or less patients daily for more than six months, and this, too, constantly in the presence of physicians and patients from all parts of the country. With the strong partisan feeling enlisted in this subject, if a single unpleasant result had occurred in his practice, it could not have been concealed. It would have been trumpeted throughout the length and breadth of the land. But as nothing of the kind has happened, the safety of the operation may be regarded as fully established.

3d. *The Therapeutic Results of this Method of Medication.*

No one fact is better settled in the science of therapeutics, than the effect of nitrate of silver on inflamed mucous membranes. The pathological condition of the mucous membranes of the air tubes, in chronic bronchitis and in the bronchi, leading to tubercular deposition, is equally well established. Most physicians accustomed to treat pulmonary

diseases, must have had in the course of their practice some such ideas as are happily expressed in the following quotation from Dr. Chambers, a distinguished physician of London, "While treating diseases in those parts of the mucous membrane which are sufficiently exposed to sight and touch, for the immediate application of remedial agents, there are few to whom the wish has not occurred that equal facilities were afforded of directly influencing the deeper seated continuations of the same fabric. The powerful remedies which restore so rapidly to health the conjunctiva, and the fauces, would probably act with equal quickness and success on the stomach or the bronchi, could we apply them rightly to the right spot and attack the local disease, without passing circuitously through the whole system."*

A priori, then, we should look for most favorable results from this method of medication as meeting "a general indication which the judicious practitioner will know how to avail himself of."†

The writer of this report has *abundant proof* that the results of experience *fully confirm* expectations founded upon analogy and inductive reasoning. He has availed himself of every opportunity to watch the effects of the treatment now under discussion; he has examined a large number of patients, has learned their commemorative symptoms, and has watched their progress from day to day. A report of this character cannot be burthened with a minute detail of individual cases. General results only can be stated. The use of the injections has uniformly been followed by a marked decrease in the cough and expectoration. A large proportion of the cases were those of chronic bronchitis. There were some of early and some of advanced phthisis. In all the cases of bronchitis, the patients began to improve as soon as the injections were used. Many of them recovered with a rapidity which I have never seen under any other treatment. In early tuberculosis, especially, when complicated with bronchial disease (as it usually is), this method of topical medication has produced the most gratifying results, diminishing the cough and expectoration, relieving dyspnoea, and allaying pain in the chest when present. In several prominent cases, the details of which at some future time will be given to the profession, the disease appears to be arrested. Time, of course, must determine this point. In some advanced and hopeless cases of phthisis, the injections have for a time greatly diminished the cough, expectoration, and irritation about the chest, and some of these

* London Lancet, Am. Ed., 1849, vol. 10, p. 29.

† The Path. and Treat. of Tuberculosis, by John Hughes Bennett, M.D., &c., p. 140.

patients and their friends have repeatedly declared that they invariably rested better after an injection. Many physicians of this city and from different parts of the country, will fully confirm the above statements, from their own observation. Some, among whom may be mentioned Drs. Bowditch and Perry of Boston, and Dr. Marsden of Quebec, have, to a limited extent, tested this plan of treatment in their own practice, with equally happy results, so far as their experience goes.

In conclusion, the minority of the committee would suggest, for the acceptance of the Academy, the following propositions :

1st. Direct medication of the lungs by means of catheterism of the air tubes, was first proposed and carried into effect by our associate member, Dr. Horace Green.

2d. The operation may be performed by the dexterous surgeon with ease and facility, and with perfect safety to the patient.

3d. The results of this method of treatment, whether it has been employed in bronchial affections or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery.

B. FORDYCE BARKER,

of the committee, &c.

At its close, it was voted, on motion of Dr. Beadle, that the reports be accepted, and that the committee be discharged.

Dr. D. M. Reese said, that already the hour was late, and the discussion which must ensue upon the reading of the learned and able reports, would be protracted and exciting. Moreover, to enter into it intelligibly and safely, it was desirable that the members should have an opportunity to examine quietly and carefully these elaborate papers. He would therefore move, that all the documents submitted to the Academy be printed, and that each member be furnished with a copy.

Dr. Beadle wished to know if they were to be published as "proceedings of the Academy."

Dr. Watson said, the object of the Academy is to discuss the matter intelligently ; but, is it necessary to call them "transactions?"

Dr. Beadle thought they were such, and, if published at all, must be published as such.

Dr. Stone said, he desired to go into committee of the whole, and discuss the subject now.

Dr. Reese said, we have not the documents before us, and cannot

discuss them favorably or well. The hour is late, and we had better adjourn, allowing time for printing.

Dr. Reese's motion was carried, and after some discussion as to the number of copies to be struck off, the Academy adjourned.

PART VI.—EDITORIAL AND MISCELLANEOUS.

The Committee of the New York Academy of Medicine and their Reports.

After a six months incubation, this committee has made its report, or, more correctly speaking, its reports. They make a series of documents so singular, so striking, and of so much interest to the profession at large, that we shall make no apology for laying them before our readers. They are, however, so long, that to give them in full, we have been compelled to add an extra form of sixteen pages to this number; desirous as we were, of placing them before the profession together, and without the interruption of a month between the periods of issue. This, with the late day of the second meeting, will account for the slight delay of this number of the MONTHLY.

The accuracy of such an account of the proceedings, is a matter of great consequence. In order to avoid all error, we have in every instance but one, copied from the *original documents* themselves. That exception is Dr. Anderson's note, which he himself furnished to us, from memory, however, and it may not be the same, word for word, as that given to the committee. Its sentiments and ideas, in this instance all that is of importance, are undoubtedly the same.

We have been particular to state these facts, because a suspicion might be felt that these documents were garbled, or that by the turn of a sentence, the writer had been made to express other than his own ideas. We can conceive that many members of the profession will think it incredible that no change has been made in one or two of these reports. So careful have we been, however, that some errors of punctuation have been allowed to remain, and faulty grammatical constructions have also been untouched. An Editor's usual privilege to correct, has not been used by us, for fear we should misrepresent. The only difference, then, that can possibly exist, between those documents as we print them, and as they will come from the "Transactions" of the Academy,—for they print the reports,—must

be in these unimportant matters, unless, indeed, alterations should be permitted, which, of course, ought not to be, and probably will not. This preface seems to be necessary, that our readers may see that they may place full confidence in our account of all the papers written out by the different gentlemen before they were brought to the Academy. To enumerate them, they are, in succession,—“the minutes” of the committee, the majority report, Dr. Barker's remarks the first evening, Dr. Anderson's note, Dr. Stevens' report, and the minority report. The account of the debate has been given with the greatest accuracy possible without the aid of a stenographer, and is believed to be full and correct.

In speaking of these proceedings, we are somewhat at a loss to know where to begin. There is so much to be said, there are so many things suggested, and withal our space is so limited, that we labor under the *embarras de richesse*.

But let us first be historical. This committee (and their reports will bear out our assertions) was appointed at the meeting of the Academy held last December. It was on motion of Dr. Willard Parker * that the investigation was decided upon, and he was made the chairman of the committee, by the president, who also appointed its other members. The report was made in June, a period of six months having intervened between the appointment and the report, and such a time as ought at least to have been taken. Few weeks were allowed to elapse (the committee were appointed Dec. 6th, and their minutes show that their first meeting was on Jan. 8th,) before they came together. At this meeting Dr. Barker notified them that Dr. Green would be glad to have the committee meet at his office at any time, after two days' notice, and examine his practice and patients. They accordingly met there Jan. 13th, and again Feb. 1st, and on both those occasions Dr. Green, as we *know*, gave the fullest opportunity to each individual of the committee to examine his patients and to witness his experiments. Three other meetings were held at Bellevue Hospital, the last only one day before the committee reported, “to witness some experiments by Dr. Taylor.” Dr. Green was not present at this. At the other two, one Jan. 20th, and the other Jan. 27th, he was present, certainly a portion of the

* It has been stated to us that the committee was moved by Dr. Sayre, but if so, the writer's memory is in error, and we can hardly believe that the then President, Dr. Joseph M. Smith, though a particular friend of Dr. Parker, would have violated so well known a parliamentary rule, as to make any one but the mover chairman of the committee.

time, perhaps the whole. From Dr. Parker's remarks we learn that Drs. Parker and Stone, with Dr. Taylor, whose name frequently figures in the minutes, and in the majority report, had, before the first meeting of the committee, assembled, and decided upon what they would consider as signs of the presence of an instrument in the trachea. To their Procrustean bed all facts were to come, or else to be considered "unsatisfactory." The minutes also show (and here let us heartily thank the majority for having them read) that an invitation was extended to the committee to visit Dr. Green's office, separately or together, whenever they chose, and to observe his practice and its results—an invitation of which, strange to say, not one of the committee but Dr. Barker availed himself.

The additional, though more significant fact in the history of the matter, may be mentioned, that at the first meeting of the committee to consider their report, held the 23d day of March, neither Dr. Anderson, Dr. Stevens, nor Dr. Barker, was present, the two last being absent from the city, (would it not have been courteous to have adjourned to another evening?) and though the character of the report was then decided upon by the remaining *four*, no intimation of its character, or of its having been decided upon, was made to Dr. Barker till two evenings before the Academy meeting, though during this interval he frequently met the other members, and for a time was met by the chairman daily, in consultation. Could this profound silence have been *entirely* accidental? So far, the history of the meetings.

The inquiry next occurs, to what extent did the committee exert themselves to investigate the matter? Did they leave any one stone in its place under which might lurk a particle of truth? Did they give evidence of an earnest desire to ascertain the truth, and to state it without regard to its effect on themselves or others?

In reply, we only state the following facts, confirmed in part by the majority reports and the minutes, and the rest can be confirmed by the truthful testimony of the committee themselves. Six meetings of the committee were held for experiments and observation. At these meetings, according to their own statements, they three times, at least, saw injections thrown into the trachea; twice by Dr. Green at his office, and once by themselves at Bellevue Hospital. The latter, the majority *say*, died, and they give a letter from Dr. Frothingham, who, we presume, is one of the young gentlemen who are assistants at that institution, in which he gives certain post-mortem appearances, alleged to be found in the lungs of the said dead man. Now

are the majority willing to assert that Dr. Frothingham is one of the best pathologists or microscopists in the city? Undoubtedly he is a most estimable young gentleman, but is he qualified to act as an expert at all in those investigations; and could not a better have *possibly* been found? We hazard nothing in saying that in those capacities he is entirely unknown to the profession of the city.

Still further, the committee should have been called to witness the autopsy; but so far as appears from the record or report, or so far as we can learn, not one of them was present. Certainly Dr. Barker was not, and was not notified of it. As certainly it would have been an act of *courtesy*, to say the least, to Dr. Green, to have invited him to witness the examination, and still no such courtesy was extended to him. On what authority, then, do the majority base their conclusion concerning this case? On such evidence, so far as appears (and we are authorized in supposing they have no other authority), as every scientific man must at once see is entirely insufficient, and this after the committee had decided to be guided only by what they saw with their own eyes. Dr. Barker has therefore adopted the only correct course, in ignoring this case entirely, in the minority report.

But supposing, for the present, that the majority had ground for knowing that this man had died soon after the committee had injected his trachea. They had seen two other persons injected in a somewhat similar manner, what was their duty in respect of them? Clearly to hasten at once to Dr. Green and ascertain whether or not a similar result had followed. But did they do this? *Never!* with the single exception of Dr. Barker. They knew, or had reason to suppose that Dr. Green was daily repeating the same thing, and yet they not only did not send him a word of caution concerning the fatal case, but they most religiously, shall we say, kept it from him, so that, till the majority report was read, he and his friends knew nothing of it more than rumor stated, though it occurred months before. We hasten to quiet any sudden anxiety of the committee, by informing them that as yet no injurious, much less fatal result, has followed his repeated injections. We also inform the majority that those two patients are now much better, one believing himself entirely restored to health.

But again. There is much point in the enquiry made by Dr. Gardner, at the first meeting of the Academy, whether or not the alvine evacuations had been examined to see if they contained any salt of silver, a point which the chairman of the committee said was not at all noticed. Now it was evident that Dr. Green was throwing decided quantities of nitrate of silver either into the air passages

or the œsophagus. The majority professed to believe that it was the latter, and still took no steps, made not the slightest effort to ascertain whether or not there was this confirmation of their opinion. They either had time enough to do it, or had not. If enough, they are culpable for omitting it; if they had not enough, they should have taken more, for they were under no limit in this respect.

There is another dilemma in which the majority have placed themselves. They assert that there are 92 per cent. of failures in efforts to introduce the tube into the trachea. Though we believe them to be in error, in fact, know they are—we adopt their statement for the moment. Now it can be shown “as clearly as the noonday sun,” to use a favorite expression of the chairman, that most, if not all, the patients injected by Dr. Green, are better, if not well; except in those cases, in which the remedy was used only as a palliative, which purpose it answered. Are the committee prepared to sustain the position that injections of nitrate of silver into the œsophagus have this remedial power? It is not other auxiliary treatment, for that is such only as has before failed when used alone. The stubborn facts are in the way, that the patients are much better; the majority deny that the injection goes into the trachea even. The deduction is for them inevitable, that injections of nitrate of silver into the œsophagus are very beneficial in pulmonary disease. May they enjoy their position on that horn.

But our limits absolutely forbid farther remarks, and much that we desired to say, must be postponed at least another month. We ask for the documents a careful perusal. Let the minutes be carefully scanned, and all the reports as carefully. Let it be observed how the committee's decision of “unsatisfactory on account of the absence of *appropriate* symptoms” is made to disparage otherwise successful experiments. Let the whole spirit of the minutes, and of the majority report, be studied without prejudice, and without partiality, and we have no fear of the result. All that Dr. Green, or that his friends ask, is investigation of the *truth*. It is on his side, and he courts inquiry. But it is candid, impartial, unprejudiced enquiry that he seeks. Not efforts to support a preconceived opinion, or to gratify an old hostility. Scientific men, not partisans, he asks to be his judges.

In conclusion, we only add that we have carefully avoided all personality, and, if possible, shall continue to do so. That the same course may be followed by the members of the Academy, in the discussion which is to take place on the third Wednesday of July, we

sincerely hope. Of that discussion, we shall endeavor to inform our readers, in the next number of the MONTHLY.

ITEMS.

The College of Physicians and Surgeons,—that is, the “Crosby-street School” of this city,—have commenced a new building on the corner of Twenty-third street and Fourth avenue.

CONTINUED LACTATION OF CHILDREN BY SICK MOTHERS.—Alf. Mercier quotes the following cases : in one instance, a mother sick of typhus fever continued to nurse her child fourteen months old, without injuring it. In another case, a mother sick with yellow fever continued to nurse her child eleven months old, also without bad effect. —*Presse Medicale de Paris*.

M. Guillot remarks that a disease beginning in the last stages of gestation, or the first after confinement, is no indication for the interruption or discontinuance of nursing.—*Presse Med. Belge*.

THE CONDUCT OF THE WAR IN THE CRIMEA.—A correspondent of the New York *Evening Post* gives the following specimen of the manner in which Mr. Roebuck's Committee prosecute their inquiry into the conduct of the war, and compel the delinquents to own up :—

“Was to-day at the Committee of Inquiry, Mr. Roebuck's committee. The proceedings are entirely public. To-day two of the Crimean medical officers were on the rack, and pretty disclosures they were forced to make, more to the edification of their hearers than to their own delight, for they proved themselves to have been guilty of the grossest negligence in their offices. One of them was the inspector-general or deputy inspector of the hospitals at Scutari, whose duty it was to go about and see that everything connected with this department was in a proper state—and imagine this man saying that the hospitals were in a cleanly condition, and writing to Lord Stratford de Redcliffe that they had everything needful for the comfort and sustenance of the patients, at the very time that the hospitals were in the most disgusting and filthy condition, and men dying in them of mere exhaustion ! The Committee pumped them both dry in a manner which was delightful. They both hemmed and hawed, and tried to get out of the mud the best way they could ; but little Roebuck put it into them in a way they hadn't been accustomed to before, snubbing them at a most prodigious rate. ‘Why can't you answer that question in a plain manner? Did you, or did you not?’ ‘No.’ ‘Well, then, say so at once.’”

M. JONAS, of Berlin, cautions against the use of artificial nipples, made of vulcanized rubber, that is, made of India rubber prepared with sulphur, as they cause exhausting diarrhœa in the child.—*Med. Centr. L.* Aug. 12.

CASES OF LONGEVITY IN NEW HAMPSHIRE.—The following persons lived to be one hundred and ten years of age or upwards. Samuel McGuinn, of Andover, who died in 1845, 110 years; William Scoby, Londonderry, 1754, 110; John Collamore, Kensington, 1825, 110; Jenney Kennison, Brookfield, 1840, 110; Samuel Welch, Bow, 1823, 112; Robert Macklin, Wakfield, 1787, 115; William Perkins, Newmarket, 1732, 116; Duncan McNaughton, Moultonborough, 1831, 117; and Zacheus Lovell, Nashua, 120. The date of this last death we do not know. Probably he was the oldest person that ever died in the State.

DEATH OF AN AMERICAN SURGEON IN THE RUSSIAN SERVICE.—The Providence *Journal* records the death of Dr. Isaac Draper, Jr., an American Surgeon, who has been employed in the Russian service, and who was the writer of various interesting letters, which from time to time have been published in the columns of that newspaper. He died at Sebastopol, on the 20th of March, of typhus fever, after an illness of four weeks. His funeral was attended with all the official marks of respect. The *Journal* says:—"Dr. Draper was the son of Isaac Draper, of South Attleborough, Mass. He was 32 years of age, and graduated at Brown University, in the class of 1844. He was a man of fine talents and education, improved by travel and study abroad."

PUNCTUATION.—The omission of a single comma will oftentimes alter or materially modify the meaning of a sentence. An omission of this kind in an interesting article about the inauguration of the new hospital building in New York, makes the writer state that "an extensive view is presented from the fourth story of the Hudson River!"